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 September 30, 2021

or

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

For the Transition Period From _____ to _____ .

Commission File Number: 001-33093

LIGAND PHARMACEUTICALS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware	**77-0160744**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
5980 Horton Street, Suite 405 **Emeryville** **CA**	**94608**
(Address of principal executive offices)	*(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	☒	Accelerated Filer	☐
Non-Accelerated Filer	☐	Smaller Reporting Company	☐
Emerging Growth Company	☐		

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 November 5, 2021, the registrant had 16,711,641 shares of common stock outstanding.

LIGAND PHARMACEUTICALS INCORPORATED
QUARTERLY REPORT

FORM 10-Q

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GLOSSARY OF TERMS AND ABBREVIATIONS

Abbreviation	Definition
2020 Annual Report	Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on February 24, 2021
2023 Notes	$750.0 million aggregate principal amount of convertible senior unsecured notes due 2023
Ab Initio	Ab Initio Biotherapeutics, Inc.
Amgen	Amgen, Inc.
ANDA	Abbreviated New Drug Application
ASC	Accounting Standards Codification
ASU	Accounting Standards Update
CE	Captisol-enabled
Company	Ligand Pharmaceuticals Incorporated, including subsidiaries
CVR	Contingent value right
Crystal	Crystal Bioscience, Inc.
CStone Pharmaceuticals	CStone Pharmaceuticals (Suzhou) Co., Ltd.
CyDex	CyDex Pharmaceuticals, 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
Gilead	Gilead Sciences, Inc.
Icagen	Icagen, Inc.
IND	Investigational New Drug
Ligand	Ligand Pharmaceuticals Incorporated, including subsidiaries
Metabasis	Metabasis Therapeutics, Inc.
NDA	New Drug Application
Pfenex	Pfenex Inc.
Pfenex CVR	Contingent value rights agreement, dated September 30, 2020, by and between Ligand and Pfenex
Pfizer	Pfizer Inc.
Q3 2020	The Company's fiscal quarter ended September 30, 2020
Q3 2021	The Company's fiscal quarter ended September 30, 2021
SBC	Share-based compensation expense
SEC	Securities and Exchange Commission
sNDA	Supplemental New Drug Application
Taurus	Taurus Biosciences, LLC
Teva	Teva Pharmaceuticals USA, Inc., Teva Pharmaceutical Industries Ltd. and Actavis, LLC, collectively
Travere	Travere Therapeutics, Inc.
Viking	Viking Therapeutics, Inc.
xCella	xCella Biosciences, Inc.
YTD	Year-to-date

PART I - FINANCIAL INFORMATION

ɛm 1. Condensed Consolidated Financial Statements

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

	September 30, 2021	December 31, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	$ 23,430	$ 47,619
Short-term investments	299,781	363,567
Accounts receivable, net	64,336	56,847
Inventory	32,996	26,487
Income taxes receivable	6,378	2,217
Other current assets	5,161	3,822
Total current assets	432,082	500,559
Deferred income taxes, net	26,728	24,320
Intangible assets, net	562,372	595,330
Goodwill	190,183	189,662
Commercial license and other economic rights, net	10,748	10,979
Property and equipment, net	18,702	14,434
Operating lease right-of-use assets	12,951	6,892
Financing lease right-of-use assets	16,795	15,842
Other assets	3,095	4,267
Total assets	$ 1,273,656	$ 1,362,285
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 7,233	$ 3,784
Accrued liabilities	12,237	18,530
Current contingent liabilities	2,594	39,884
Deferred revenue	12,007	29,435
Current operating lease liabilities	2,181	1,885
Current financing lease liabilities	45	6,593
Total current liabilities	36,297	100,111
2023 convertible senior notes, net	316,889	442,293
Long-term contingent liabilities	6,782	9,249
Deferred income taxes, net	63,026	64,598
Long-term operating lease liabilities	11,467	5,643
Other long-term liabilities	27,129	30,866
Total liabilities	461,590	652,760
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000 shares authorized; zero issued and outstanding at September 30, 2021 and December 31, 2020	—	—
Common stock, $0.001 par value; 60,000 shares authorized; 16,707 and 16,080 shares issued and outstanding at September 30, 2021 and December 31, 2020, respectively	17	16
Additional paid-in capital	358,418	318,358
Accumulated other comprehensive loss	(875)	(801)
Retained earnings	454,506	391,952
Total stockholders' equity	812,066	709,525
Total liabilities and stockholders' equity	$ 1,273,656	$ 1,362,285

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 September 30,		Nine months ended September 30,	
	2021	**2020**	**2021**	**2020**
Revenues:				
Royalties	$ 15,648	$ 9,005	$ 31,376	$ 22,751
Captisol	35,093	23,389	128,875	68,966
Contract revenue	14,094	9,454	44,409	24,712
Total revenues	64,835	41,848	204,660	116,429
Operating costs and expenses:				
Cost of Captisol	11,446	6,353	50,192	18,680
Amortization of intangibles	11,827	3,875	35,391	11,285
Research and development	16,938	12,853	50,769	37,476
General and administrative	12,718	15,020	39,747	34,353
Other operating income	(3,800)	—	(37,600)	—
Total operating costs and expenses	49,129	38,101	138,499	101,794
Income from operations	15,706	3,747	66,161	14,635
Other income (expense):				
Gain (loss) from short-term investments	1,937	(9,862)	8,135	(17,143)
Interest income	169	991	698	7,690
Interest expense	(4,439)	(6,269)	(15,154)	(21,030)
Other income (expense), net	1,886	(219)	(5,516)	1,940
Total other income (loss), net	(447)	(15,359)	(11,837)	(28,543)
Income (loss) before income taxes	15,259	(11,612)	54,324	(13,908)
Income tax benefit (expense)	(1,536)	4,911	8,230	5,162
Net income (loss)	$ 13,723	$ (6,701)	$ 62,554	$ (8,746)
Basic net income (loss) per share	$ 0.82	$ (0.42)	$ 3.77	$ (0.54)
Shares used in basic per share calculations	16,688	16,082	16,595	16,222
Diluted net income (loss) per share	$ 0.80	$ (0.42)	$ 3.64	$ (0.54)
Shares used in diluted per share calculations	17,142	16,082	17,187	16,222

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Three months ended September 30,		Nine months ended September 30,	
	2021	**2020**	**2021**	**2020**
Net income (loss):	$ 13,723	$ (6,701)	$ 62,554	$ (8,746)
Unrealized net loss on available-for-sale securities, net of tax	(14)	(54)	(74)	(84)
Foreign currency translation	—	923	—	(1,141)
Comprehensive income (loss)	$ 13,709	$ (5,832)	$ 62,480	$ (9,971)

See accompanying notes to unaudited condensed consolidated financial statements.

LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)
(in thousands)

	Common Stock					
	Shares	Amount	Additional paid in capital	Accumulated other comprehensive loss	Retained earnings	Total stockholders' equity
Balance at January 1, 2021	16,080	$ 16	$ 318,358	$ (801)	$ 391,952	$ 709,525
Issuance of common stock under employee stock compensation plans, net	572	1	20,580	—	—	20,581
Share-based compensation	—	—	8,405	—	—	8,405
Unrealized net loss on available-for-sale securities, net of deferred tax	—	—	—	(55)	—	(55)
Reacquisition of equity due to 2023 debt extinguishment, net of tax	—	—	(9,086)	—	—	(9,086)
Warrant and bond hedge unwind transactions	—	—	396	—	—	396
Tax effect for 2023 Notes transactions	—	—	(2,032)	—	—	(2,032)
Net income	—	—	—	—	18,106	18,106
Balance at March 31, 2021	16,652	$ 17	$ 336,621	$ (856)	$ 410,058	$ 745,840
Issuance of common stock under employee stock compensation plans, net	24	—	1,103	—	—	1,103
Share-based compensation	—	—	10,216	—	—	10,216
Unrealized net loss on available-for-sale securities, net of deferred tax	—	—	—	(5)	—	(5)
Reacquisition of equity due to 2023 debt extinguishment, net of tax	—	—	(1,073)	—	—	(1,073)
Tax effect for 2023 Notes transactions	—	—	(289)	—	—	(289)
Net income	—	—	—	—	30,725	30,725
Balance at June 30, 2021	16,676	$ 17	$ 346,578	$ (861)	$ 440,783	$ 786,517
Issuance of common stock under employee stock compensation plans, net	31	—	1,898	—	—	1,898
Share-based compensation	—	—	9,754	—	—	9,754
Unrealized net loss on available-for-sale securities, net of deferred tax	—	—	—	(14)	—	(14)
Reacquisition of equity due to 2023 debt extinguishment, net of tax	—	—	(32)	—	—	(32)
Warrant and bond hedge unwind transactions	—	—	96	—	—	96
Tax effect for 2023 Notes transactions	—	—	124	—	—	124
Net income	—	—	—	—	13,723	13,723
Balance at September 30, 2021	16,707	$ 17	$ 358,418	$ (875)	$ 454,506	$ 812,066

	Common Stock					
	Shares	Amount	Additional paid in capital	Accumulated other comprehensive loss	Retained earnings (Accumulated deficit)	Total stockholders' equity
Balance at January 1, 2020	16,823	$ 17	$ 367,326	$ (216)	$ 400,105	$ 767,232
Issuance of common stock under employee stock compensation plans, net	105	—	(1,008)	—	—	(1,008)
Share-based compensation	—	—	5,653	—	—	5,653
Repurchase of common stock	(878)	(1)	(73,286)	—	—	(73,287)
Unrealized net loss on available-for-sale securities, net of deferred tax	—	—	—	(2,772)	—	(2,772)
Foreign currency translation adjustment	—	—	—	(1,879)	—	(1,879)
Reacquisition of equity due to 2023 debt extinguishment, net of tax	—	—	(2,745)	—	—	(2,745)
Cumulative-effect adjustment from adoption of ASU 2016-13, net of tax	—	—	—	—	(5,167)	(5,167)
Net loss	—	—	—	—	(24,131)	(24,131)
Balance at March 31, 2020	16,050	$ 16	$ 295,940	$ (4,867)	$ 370,807	$ 661,896
Issuance of common stock under employee stock compensation plans, net	21	—	1,128	—	—	1,128
Share-based compensation	—	—	7,359	—	—	7,359
Unrealized net gain on available-for-sale securities, net of deferred tax	—	—	—	2,742	—	2,742
Foreign currency translation adjustment	—	—	—	(185)	—	(185)
Adjustment on reacquisition of equity due to 2023 debt extinguishment, net of tax	—	—	(23)	—	—	(23)
Net income	—	—	—	—	22,086	22,086
Balance at June 30, 2020	16,071	$ 16	$ 304,404	$ (2,310)	$ 392,893	$ 695,003
Issuance of common stock under employee stock compensation plans, net	20	—	910	—	—	910
Share-based compensation	—	—	7,740	—	—	7,740
Unrealized net loss on available-for-sale securities, net of deferred tax	—	—	—	(54)	—	(54)
Foreign currency translation adjustment	—	—	—	923	—	923
Other	—	—	3	—	—	3
Net loss	—	—	—	—	(6,701)	(6,701)
Balance at September 30, 2020	16,091	$ 16	$ 313,057	$ (1,441)	$ 386,192	$ 697,824

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Nine months ended September 30,	
	2021	**2020**
Cash flows from operating activities:		
Net income (loss)	$ 62,554	$ (8,746)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Change in estimated fair value of contingent liabilities	(39,377)	(397)
Depreciation and amortization of intangible assets	37,902	12,645
Amortization of premium on investments, net	145	1,507
Amortization of debt discount and issuance fees	12,863	17,743
Amortization of commercial license and other economic rights	96	2,505
Loss (gain) on debt extinguishment	7,303	(659)
Share-based compensation	28,375	20,752
Deferred income taxes	(8,229)	(19,311)
Loss (gain) from short-term investments	(8,135)	17,143
Other	658	(1,525)
Changes in operating assets and liabilities, net of acquisitions:		
Accounts receivable, net	(8,838)	(5,080)
Inventory	(3,103)	(4,914)
Accounts payable and accrued liabilities	(3,635)	9,639
Income tax receivable and payable	(4,167)	12,026
Deferred revenue	(20,696)	5,603
Operating lease liabilities	6,120	(226)
Other assets and liabilities	(8,680)	(4,656)
Net cash provided by operating activities	51,156	54,049
Cash flows from investing activities:		
Purchase of short-term investments	(116,898)	(337,016)
Proceeds from sale of short-term investments	152,465	389,296
Proceeds from maturity of short-term investments	37,100	589,155
Cash paid for acquisition, net of cash acquired	—	(26,857)
Cash paid for equity method investment	—	(500)
Purchase of property and equipment	(6,566)	(2,828)
Other	135	2,600
Net cash provided by investing activities	66,236	613,850
Cash flows from financing activities:		
Repurchase of 2023 Notes	(155,760)	(203,210)
Payments under financing lease obligations	(9,188)	(5,224)
Proceeds from convertible bond hedge settlement	18,938	—
Payments to convertible bond holders for warrant purchases	(18,446)	—
Net proceeds from stock option exercises and ESPP	29,484	2,459
Taxes paid related to net share settlement of equity awards	(5,903)	(1,429)
Share repurchase	—	(73,287)
Payments to CVR Holders	(1,050)	(2,325)
Net cash used in financing activities	(141,925)	(283,016)
Effect of exchange rate changes on cash	—	(50)
Net increase (decrease) in cash, cash equivalents and restricted cash	(24,533)	384,833
Cash, cash equivalents and restricted cash at beginning of period	47,963	72,273
Cash, cash equivalents and restricted cash at end of period	$ 23,430	$ 457,106
Supplemental disclosure of cash flow information:		
Interest paid	$ 1,740	$ 2,531
Taxes paid	$ 3,720	$ 2,130
Restricted cash in other current assets	$ —	$ 190
Supplemental schedule of non-cash activity:		
Accrued fixed asset purchases	$ 557	$ 381
Accrued inventory purchases	$ 4,968	$ 1,390
Accrued financing lease payment	$ —	$ 2,500
Unrealized loss on AFS investments	$ (74)	$ (109)

See accompanying notes to unaudited condensed consolidated financial statements.

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 2020 Annual Report. Interim financial results are not necessarily indicative of the results that may be expected for the full year.

Significant Accounting Policies

We have described our significant accounting policies in *Note 1, Basis of Presentation and Summary of Significant Accounting Policies* of the Notes to Consolidated Financial Statements in our 2020 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 Not Yet Adopted

In August 2020, the FASB issued ASU 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity.* The new guidance simplifies accounting for convertible instruments by removing major separation models required under current GAAP. This standard removes certain settlement conditions that are required for equity contracts to qualify for the derivative scope exception and it also simplifies the diluted earnings per share calculation in certain areas. This standard is effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020 and adoption must be as of the beginning of the Company's annual fiscal year. We are currently evaluating the impact of this standard on our consolidated financial statements and related disclosures. We intend to adopt this standard on January 1, 2022.

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

Revenue

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

Royalties

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 when the underlying sale occurs. 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.

Contract Revenue

Our contract revenue includes service revenue, license fees and future contingent milestone based payments. We recognize service revenue for contracted R&D services performed for our customers over time. We measure our progress using an input method based on the effort we expend or costs we incur toward the satisfaction of our performance obligation. We estimate the amount of effort we expend, including the time we estimate it will take us to complete the activities, or costs we incur in a given period, relative to the estimated total effort or costs to satisfy the performance obligation. This results in a percentage that we multiply by the transaction price to determine the amount of revenue we recognize each period. This approach requires us to make estimates and use judgement. If our estimates or judgements change over the course of the collaboration, they may affect the timing and amount of revenue that we recognize in the current and future periods.

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.

Captisol Sales

We recognize revenue when control of Captisol material 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. We have elected to recognize the cost for freight and shipping when or after control over Captisol material has transferred to the customer as an expense in cost of Captisol. 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.

Deferred Revenue

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.

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 and nine months ended September 30, 2021, the amount recognized as revenue that was previously deferred was $7.7 million, and $22.8 million, respectively. During the three and nine months ended September 30, 2020, the amount recognized as revenue that was previously deferred was $5.8 million and $8.3 million, respectively.

Disaggregation of Revenue

The following table represents disaggregation of royalties, Captisol and contract revenue (in thousands):

	Three months ended September 30,		Nine months ended September 30,	
	2021	2020	2021	2020
Royalties				
Kyprolis	$ 8,821	$ 6,923	$ 18,548	$ 16,809
Evomela	2,665	1,802	7,191	4,577
Other	4,162	280	5,637	1,365
	$ 15,648	$ 9,005	$ 31,376	$ 22,751
Captisol	$ 35,093	$ 23,389	$ 128,875	$ 68,966
Contract revenue				
Service Revenue	$ 4,828	$ 7,341	$ 17,650	$ 15,280
License Fees	200	158	2,293	1,793
Milestone	7,419	960	19,436	4,766
Other	1,647	995	5,030	2,873
	$ 14,094	$ 9,454	$ 44,409	$ 24,712
Total	$ 64,835	$ 41,848	$ 204,660	$ 116,429

Short-term Investments

Our short-term investments consist of the following at September 30, 2021 and December 31, 2020 (in thousands):

	September 30, 2021				December 31, 2020			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
Bank deposits	$ 47,739	$ 8	$ (3)	$ 47,744	$ 84,120	$ 35	$ (1)	$ 84,154
Corporate bonds	25,914	50	—	25,964	30,512	99	(1)	30,610
Agency bonds	2,501	—	—	2,501	4,499	2	—	4,501
Commercial paper	23,264	10	—	23,274	45,459	27	(1)	45,485
Corporate equity securities	5,807	307	(723)	5,391	4,466	360	(1,388)	3,438
Mutual fund	152,041	53	—	152,094	151,512	386	—	151,898
Treasury bill	—	—	—	—	3,999	—	—	3,999
Warrants	—	642	—	642	—	393	—	393
	$ 257,266	$ 1,070	$ (726)	$ 257,610	$ 324,567	$ 1,302	$ (1,391)	$ 324,478
Viking common stock				42,171				32,763
Viking warrants				—				6,326
Total short-term investments				$ 299,781				$ 363,567

During the nine months ended September 30, 2021, we exercised all outstanding Viking warrants to purchase1.5 million shares of Viking's common stock at an exercise price of $1.50 per share. As of September 30, 2021, we have zero Viking warrants outstanding.

Gain (loss) from short-term investments in our condensed consolidated statements of operations includes both realized and unrealized gain (loss) from our short-term investments in public equity and warrant securities.

Allowances are recorded for available-for-sale debt securities with unrealized losses. This limits the amount of credit losses that can be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and requires the reversal of previously recognized credit losses if fair value increases. The provisions of the credit losses standard did not have a material impact on our available-for-sale debt securities during the three and nine months ended September 30, 2021.

The following table summarizes our available-for-sale debt securities by contractual maturity (in thousands):

	September 30, 2021	
	Amortized Cost	Fair Value
Within one year	$ 76,055	$ 76,086
After one year through five years	23,363	23,396
Total	$ 99,418	$ 99,482

Our investment policy is capital preservation and we only invested in U.S.-dollar denominated investments. We held a total of eleven positions which were in an unrealized loss position as of September 30, 2021. We believe that we will collect the principal and interest due on our debt securities that have an amortized cost in excess of fair value. The unrealized losses are largely due to changes in interest rates and not to unfavorable changes in the credit quality associated with these securities that impacted our assessment on collectability of principal and interest. We do not intend to sell these securities and it is not more-likely-than-not that we will be required to sell these securities before the recovery of the amortized cost basis. Accordingly, no credit losses were recognized for the three and nine months ended September 30, 2021.

Accounts Receivable and Allowance for Credit Losses

Our accounts receivable arise primarily from sales on credit to customers. We establish an allowance for credit losses to present the net amount of accounts receivable expected to be collected. The allowance is determined by using the loss-rate method, which requires an estimation of loss rates based upon historical loss experience adjusted for factors that are relevant to determining the expected collectability of accounts receivable. Some of these factors include macroeconomic conditions that correlate with historical loss experience, delinquency trends, aging behavior of receivables and credit and liquidity quality indicators for industry groups, customer classes or individual customers. During the three and nine months ended September 30, 2021, we considered the current and expected future economic and market conditions including, but not limited to, the anticipated unfavorable impacts of the COVID-19 pandemic on our business and recorded an adjustment of $0.01 million and $0.1 million of allowance for credit losses, respectively, as of September 30, 2021.

Inventory

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

As of September 30, 2021, we have made advanced payments for inventory from our supplier of Captisol totaling $50.2 million. We have applied credits for such inventory purchases of $24.4 million and will utilize the remaining advanced payments to offset a portion of the purchase price for future Captisol purchases.

Goodwill and Other Identifiable Intangible Assets

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

	September 30, 2021	December 31, 2020
Indefinite-lived intangible assets		
Goodwill	$ 190,183	$ 189,662
Definite lived intangible assets		
Complete technology	280,173	277,740
Less: accumulated amortization	(75,159)	(63,600)
Trade name	2,642	2,642
Less: accumulated amortization	(1,411)	(1,312)
Customer relationships	40,700	40,700
Less: accumulated amortization	(17,599)	(15,597)
Contractual relationships	362,000	362,000
Less: accumulated amortization	(28,974)	(7,243)
Total goodwill and other identifiable intangible assets, net	$ 752,555	$ 784,992

Commercial License and Other Economic Rights

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

	September 30, 2021			December 31, 2020		
	Gross	Adjustments[1]	Net	Gross	Adjustments[2]	Net
Commercial license rights	$ 28,298	$ (17,550)	**$ 10,748**	$ 28,298	$ (17,319)	**$ 10,979**

(1) Amounts represent accumulated amortization to principal of $ 11.6 million and credit loss adjustments of $ 6.0 million as of September 30, 2021.
(2) Amounts represent accumulated amortization to principal of $ 11.3 million and credit loss adjustments of $ 6.0 million as of December 31, 2020.

Commercial license and other economics rights represent a portfolio of future milestone and royalty payment rights acquired from Selexis, S.A. (Selexis) in April 2013 and April 2015, CorMatrix Cardiovascular, Inc. (CorMatrix) in May 2016, and Dianomi Therapeutics, Inc. (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 development as further discussed below and in *Note 1, Basis of Presentation and Summary of Significant Accounting Policies* of the Notes to Consolidated Financial Statements in our 2020 Annual Report.

In May 2017, we entered into a Royalty Agreement with Aziyo Med, LLC (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, and in accordance with ASC 310, *Receivables*, we 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 September 30, 2021 is 23%. Revenue is calculated by multiplying the carrying value of the commercial license right by the effective interest. The payments received during the nine months ended September 30, 2021 were accordingly allocated between revenue and the amortization of the commercial license rights.

Prior to 2020, we accounted for commercial license rights related to developmental pipeline products such as Selexis and Dianomi on a non-accrual basis. We continue to account for commercial license rights related to Dianomi on a non-accrual basis as of September 30, 2021, but starting in 2020, given the expected cash flow from the Selexis program, we started to account for the Selexis commercial license right as a financial asset in accordance with ASC 310, 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 Selexis as of September 30, 2021 is 21%. Revenue is calculated by multiplying the carrying value of the commercial license right by the effective interest. The payments received during the nine months ended September 30, 2021 were accordingly allocated between revenue and the amortization of the commercial license rights.

We recorded a $5.5 million pre-tax reserve for credit losses upon adoption of the credit losses standard (ASU 2016-13) on January 1, 2020. We estimated the credit losses at the individual asset level by considering the performance against the programs, the company operating performance and the macroeconomic forecast. In addition, we have judgmentally applied credit loss risk factors to the future expected payments with consideration given to the timing of the payment. Given the higher inherent credit risk associated with longer term receivables, we applied a lower risk factor to the earlier years and progressively higher risk factors to the later years. During the nine months ended September 30, 2021, we further considered the current and

expected future economic and market conditions surrounding the novel coronavirus (COVID-19) pandemic and concluded no further adjustment was needed on the allowance for credit losses as of September 30, 2021.

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	September 30, 2021	December 31, 2020
Compensation	$ 4,564	$ 8,810
Professional fees	1,327	977
Amounts owed to former licensees	579	421
Royalties owed to third parties	103	693
Return reserve	105	687
Acquisition related liabilities	1,004	1,500
Subcontractor	—	733
Supplier	1,031	604
Accrued interest	—	464
Other	3,524	3,641
Total accrued liabilities	$ 12,237	$ 18,530

Share-Based Compensation

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

	Three months ended September 30,		Nine months ended September 30,	
	2021	2020	2021	2020
SBC - Research and development expenses	$ 4,480	$ 3,094	$ 12,975	$ 8,510
SBC - General and administrative expenses	5,274	4,646	15,400	12,242
	$ 9,754	$ 7,740	$ 28,375	$ 20,752

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 September 30,		Nine months ended September 30,	
	2021	2020	2021	2020
Risk-free interest rate	0.8%	3%	0.5%	1%
Dividend yield	—	—	—	—
Expected volatility	48%	59%	61%	55%
Expected term	4.9	4.9	5.0	4.8

A limited amount of performance-based restricted stock units (PSUs) contain a market condition based on our relative total shareholder return ranked on a percentile basis against the NASDAQ Biotechnology Index over a three-year performance period, with a range of 0% to 200% of the target amount granted to be issued under the award. Share-based compensation cost for these PSUs is measured using the Monte-Carlo simulation valuation model and is not adjusted for the achievement, or lack thereof, of the performance conditions.

Net Income (Loss) Per Share

Basic net income (loss) per share is calculated by dividing net income (loss) by the weighted average number of common shares outstanding during the period. Diluted net 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. Diluted net loss per share is computed based on the sum of the weighted average number of common shares outstanding during the period.

Potentially dilutive common shares consist of shares issuable under the 2023 Notes, stock options and restricted stock. The 2023 Notes have a dilutive impact when the average market price of our common stock exceeds the conversion price. 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. 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. See *Note 4, Convertible Senior Notes* and *Note 6, Stockholders' Equity*.

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

	Three months ended September 30,		Nine months ended September 30,	
	2021	**2020**	**2021**	**2020**
Weighted average shares outstanding:	16,688	16,082	16,595	16,222
Dilutive potential common shares:				
Restricted stock	75	—	85	—
Stock options	379	—	507	—
Shares used to compute diluted income per share	17,142	16,082	17,187	16,222
Potentially dilutive shares excluded from calculation due to anti-dilutive effect	5,574	7,028	4,984	8,330

For the three and nine months ended September 30, 2020, all of the0.70 million and 0.65 million, respectively, weighted average shares of outstanding equity awards as of September 30, 2020 were anti-dilutive due to the net loss for the period.

2. 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):

	September 30, 2021				December 31, 2020			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Short-term investments, excluding Viking[1]	$ 5,390	$ 251,578	$ 642	$ 257,610	$ 3,438	$ 320,647	$ 393	$ 324,478
Investment in Viking common stock	42,171	—	—	42,171	32,763	—	—	32,763
Investment in Viking warrants [2]	—	—	—	—	6,326	—	—	6,326
Total assets	$ 47,561	$ 251,578	$ 642	$ 299,781	$ 42,527	$ 320,647	$ 393	$ 363,567
Liabilities:								
Crystal contingent liabilities[3]	$ —	$ —	$ 800	$ 800	$ —	$ —	$ 800	$ 800
CyDex contingent liabilities	—	—	349	349	—	—	508	508
Metabasis contingent liabilities[4]	—	2,699	—	2,699	—	3,821	—	3,821
Icagen contingent liabilities[5]	—	—	4,808	4,808	—	—	6,404	6,404
Pfenex contingent liabilities[6]	—	—	—	—	—	—	37,600	37,600
xCella contingent liabilities[7]	—	—	720	720	—	—	—	—
Amounts owed to former licensor	31	—	—	31	60	—	—	60
Total liabilities	$ 31	$ 2,699	$ 6,677	$ 9,407	$ 60	$ 3,821	$ 45,312	$ 49,193

1. Excluding our investment in Viking, our short-term investments in marketable debt and equity securities 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. Short-term investments in mutual funds are valued at their net asset value (NAV) on the last day of the period. We have classified marketable securities with original maturities of greater than one year as short-term investments based upon our ability and intent to use any and all of those marketable securities to satisfy the liquidity needs of our current operations. In addition, we have investment in warrants resulting from Seelos Therapeutics Inc. 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 Black Scholes value estimated by management on the last day of the period.
2. Investment in Viking 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 short-term investments" in our condensed consolidated statement of operations. During the nine months ended September 30, 2021, we exercised all of the outstanding Viking warrants.
3. 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. Changes in these estimates may materially affect the fair value.
4. 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 us 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.
5. The fair value of Icagen contingent liabilities was determined using a probability weighted income approach. Most of the contingent payments are based on certain revenue milestones as defined in the asset purchase agreement with Icagen. 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. Changes in these estimates may materially affect the fair value. During the nine months ended September 30, 2021, we paid $1.1 million contingent liability based on revenue milestones to former Icagen shareholders.
6. The fair value of Pfenex contingent liabilities was determined using a probability-adjusted income approach. These cash flows were then discounted to present value using a discount rate based on the market participants' cost of debt reflective of the Company. During the three and nine months ended September 30, 2021, we reduced the contingent liability by $3.8 million and $37.6 million, respectively, primarily due to the lower probability of achieving the specific development and regulatory milestone by December 31, 2021 as defined by the Pfenex CVR. See further detail on Pfenex CVR in *Note 3, Acquisitions*.
7. The fair value of xCella contingent liabilities is determined when it is probable that the earnout liability will occur and the amount can be reasonably estimated. Management concluded that no earnout liability would be recognized at the acquisition date in September 2020. During the nine months ended September 30, 2021, management recorded $0.7 million of earnout liability to be allocated to the cost of the acquired assets due to contingencies being met as part of the acquisition agreement.

A reconciliation of the level 3 financial instruments as of September 30, 2021 is as follows (in thousands):

Fair value of level 3 financial instruments as of December 31, 2020	$	45,312
Payments to CVR holders and other contingent payments		(1,050)
Fair value adjustments to contingent liabilities		(38,305)
Contingent liabilities from xCella asset acquisition		720
Fair value of level 3 financial instruments as of September 30, 2021	$	6,677

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.

In anticipation of our plan related to the OmniAb business, additional aspects of resource allocation and performance assessment may be made at the OmniAb business level and it is possible that the OmniAb business could become a separate operating segment in the future. See *Note 9. Subsequent Event.*

At September 30, 2021, there were no indicators of impairment of our goodwill, indefinite-lived intangible assets, or long-lived assets.

3. Acquisitions

Pfenex Acquisition

On October 1, 2020, we acquired Pfenex, which develops next-generation and novel protein therapeutics to improve existing therapies and create new therapies for biological targets linked to critical, unmet diseases using a protein expression technology platform.

The preliminary purchase price of $465.1 million included $429.6 million cash consideration paid upon acquisition, and a contingent CVR payment of up to $77.8 million in cash based on a certain specified milestone with an estimated initial fair value of $37.0 million. The CVR will only be paid in full if the milestone is achieved by December 31, 2021. The amount of the CVR included in the purchase price was reduced by $1.5 million that was determined to be post-combination expense. The fair value of the CVR liability was determined using a probability-adjusted income approach. These cash flows were then discounted to present value using a discount rate based on market participants' cost of debt reflective of the Company, which was 7.1%. The liability is periodically assessed based on events and circumstances related to the underlying milestone, and any change in fair value is recorded in our consolidated statements of operations. During the nine months ended September 30, 2021, we wrote off the entire CVR liability primarily due to the lower probability of achieving the specific development and regulatory milestone by December 31, 2021 as defined by Pfenex CVR.

In connection with the acquisition, a portion of Pfenex's equity awards that were outstanding and unvested prior to the acquisition became fully vested per the terms of the merger agreement. The acceleration of vesting required us to allocate the fair value of the equity attributable to pre-combination service to the purchase price and the remaining amount was considered our post-combination expense. We paid $17.3 million in cash for equity compensation, which is attributable to pre-combination services and is reflected as a component of the total purchase price paid of $429.6 million. In addition, the fair value of equity compensation attributable to the post-combination service period was $8.7 million. These amounts were associated with the accelerated vesting of stock options previously granted to Pfenex employees and were fully paid in cash, which was recognized as general and administrative expenses during the fourth quarter of 2020.

The following table sets forth an allocation of the preliminary purchase price to the identifiable tangible and intangible assets acquired and liabilities assumed, with the excess recorded to goodwill (in thousands):

Cash	$	51,407
Restricted cash		200
Accounts and unbilled receivables		1,359
Property and equipment, net		7,823
Right-of-use asset		3,070
Other assets		1,338
Intangibles acquired		385,000
Goodwill[(1)]		91,271
Accounts payable		(6,814)
Accrued liabilities		(8,466)
Deferred revenue		(3,908)
Lease liabilities		(3,070)
Other liabilities		(1,382)
Deferred tax liabilities, net		(52,730)
	$	465,098

(1) Goodwill represents the excess of the purchase price over the preliminary fair value of the underlying assets acquired and liabilities assumed. Goodwill is attributable to the assembled workforce of experienced personnel at Pfenex and expected synergies. None of the goodwill is expected to be deductible for tax purposes.

Acquired intangibles include $362 million of contractual relationships and $23 million of core technology. The fair values of the contractual relationships were based on the discounted cash flow method that estimated the present value of the potential royalties, milestones, collaboration and product revenue streams derived from the licensing of the related technologies over the estimated contractual relationship period. The fair value of the contractual relationships is being amortized on a straight-line basis over the weighted average estimated useful life of 12.9 years. The fair values of the acquired technologies were based on the discounted cash flow method that estimated the present value of the potential royalties, milestones, collaboration and product revenue streams derived from the licensing of the related technologies over the estimated useful lives. These projected cash flows were discounted to present value using a discount rate, which varies from 12% to 15%. The total acquired intangibles are being amortized on a straight-line basis over the weighted average estimated useful life of 13.0 years.

The estimated fair values of assets acquired and liabilities assumed, including deferred tax assets and liabilities, are provisional. The accounting for these amounts falls within the measurement period and therefore we may adjust these provisional amounts to reflect new information obtained about facts and circumstances that existed as of the acquisition date.

The following summary presents our unaudited pro forma consolidated results of operations for the three and nine months ended September 30, 2020 as if the Pfenex acquisition had occurred on January 1, 2020, which gives effect to certain transaction accounting adjustments, including amortization of acquired intangibles and share-based compensation expense for retained Pfenex employees. The pro forma financial information is not necessarily indicative of the operating results that would have occurred had the acquisition been consummated as of the date indicated, nor is it necessarily indicative of future operating results (in thousands, except per share amounts):

	Three months ended September 30, 2020		Nine months ended September 30, 2020	
Revenue	$	43,082	$	119,126
Net loss	$	(46,845)	$	(77,349)
Net loss per common share:				
Basic and diluted	$	(2.91)	$	(4.77)

Taurus Acquisition

On September 9, 2020, we acquired Taurus, which discovers and develops novel antibodies from immunized cows and cow-derived libraries. The purchase price of $5.1 million included $4.6 million in cash, and a $0.5 million holdback to satisfy indemnification obligations which was settled and paid in September 2021. We also issued nontransferable CVRs for up to $4.5 million tied to partnered and internal research and development and for up to $25.0 million as a 25% share of post-clinical Taurus product revenues (including milestone payments) received by us. We evaluated this acquisition in accordance with ASC 805, *Business Combinations*, to discern whether the assets and operations of Taurus met the definition of a business. We concluded that substantially all of the fair value of the gross assets acquired is concentrated in the acquired core technology. Accordingly, we accounted for this transaction as an asset acquisition. Of the $5.1 million consideration transferred, we recognized (1) $0.05 million of tangible assets acquired, and (2) $5.0 million of core completed technology intangibles acquired. The core technology is being amortized on a straight-line basis over the estimated useful life of 10 years. We account

for the CVRs in accordance with ASC 450, *Contingencies*, when the contingency is resolved and the liability becomes payable. None of the CVRs are recognized as of September 30, 2021.

xCella Acquisition

On September 8, 2020, we acquired xCella, an antibody discovery company. We paid $7.1 million in cash (including a $0.5 million holdback to satisfy indemnification obligations to be settled by September 2021), and issued earnout rights for up to $5.0 million tied to our use of the xCella technology for partnered research and development and for up to $25.75 million as a 25% share of any future milestone payments we received under a certain existing xCella partner arrangement. The holdback was not settled as of September 30, 2021, and we expect to have it settled by the end of 2021. We evaluated this acquisition in accordance with ASC 805, *Business Combinations*, to discern whether the assets and operations of xCella met the definition of a business. We concluded that substantially all of the fair value of the gross assets acquired is concentrated in the acquired core technology. Accordingly, we accounted for this transaction as an asset acquisition. Of the $7.1 million consideration transferred, we recognized (1) $0.2 million of tangible assets acquired, (2) $(0.1) million of liabilities assumed, (3) $7.8 million of core completed technology acquired, and (4) $(0.8) million of deferred tax liability. The core technology is being amortized on a straight-line basis over the estimated useful life of 15 years. We account for the earnout rights in accordance with ASC 450, *Contingencies*, when the contingency is resolved and the liability becomes payable. None of the earnout rights are recognized as of the acquisition date. During the three and nine months ended September 30, 2021, we recognized $0.5 million and $0.7 million, respectively, in earnout rights when certain contingencies were resolved during the period.

Icagen Acquisition

On April 1, 2020, we acquired the core assets, including its partnered programs and ion channel technology, from Icagen and certain of its affiliates. The acquisition was accounted for as a business combination and we applied the acquisition method of accounting. Accordingly, we recorded the tangible and intangible assets acquired and liabilities assumed at their estimated fair values as of the applicable date of acquisition. We did not incur any material acquisition-related costs.

The purchase price of $19.9 million included $15.1 million cash consideration paid upon acquisition, and a contingent earn-out payment of up to $25.0 million of cash payments based on certain revenue milestones with an estimated fair value of $4.8 million. The fair value of the earn-out liability was determined using a probability weighted income approach incorporating the estimated future cash flows from expected future milestones. These cash flows were then discounted to present value using a discount rate based on the market participants' cost of debt reflective of Icagen. Refer to *Note 2, Fair Value Measurement*, for further discussion. The liability will be periodically assessed based on events and circumstances related to the underlying milestones, and any change in fair value will be recorded in our consolidated statements of operations. The carrying amount of the liability may fluctuate significantly and the actual amount paid may be materially different than the carrying amount of the liability. As the acquisition is not considered significant, pro forma information has not been provided. The results of Icagen have been included in our results of operations since the date of acquisition.

The allocation of the purchase price consisted of (1) $1.8 million of fair value of tangible assets acquired, (2) $(0.8) million of liabilities assumed, (3) $12.8 million of acquired intangibles, (4) $(3.7) million of deferred revenue in connection with assumed performance obligations under a collaboration agreement, (5) $0.8 million of deferred tax asset associated with the deferred revenue, and (6) $9.0 million of goodwill, the majority of which is deductible for tax purposes.

Acquired intangibles include $11.1 million of customer relationships and $1.7 million of core technology. The fair values of the customer relationships were based on a discounted cash flow analysis incorporating the estimated future cash flows from these relationships during the contractual term. These cash flows were then discounted to present value using a discount rate of 17%. The fair value of the customer relationships is being amortized on a straight-line basis over the weighted average estimated useful life of 9.6 years. The fair value of the core technology was based on the discounted cash flow method that estimated the present value of the potential royalties, milestones, and collaboration revenue streams derived from the licensing of the related technologies. These projected cash flows were discounted to present value using a discount rate of 17%. The fair value of the core technology is being amortized on a straight-line basis over the estimated useful life of 10 years. The total acquired intangibles are being amortized on a straight-line basis over the estimated useful life of 9.7 years.

4. Convertible Senior Notes

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 $248.48. As of September 30, 2021, 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.

During the nine months ended September 30, 2021, we repurchased $152.0 million in principal of the 2023 Notes for $156.0 million in cash, including accrued interest of $0.3 million. We accounted for the repurchase as a debt extinguishment, which resulted in (1) a loss of $7.3 million reflected in other income (expense), net, in our condensed consolidated statement of operations for the nine months ended September 30, 2021, (2) a $13.7 million reduction in debt discount, and (3) a $10.2 million reduction to additional paid in capital, net of tax, related to the reacquisition of the equity component in our condensed consolidated balance sheet as of September 30, 2021.

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 our 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 $140.3 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.

In January 2021, we entered into amendments with Barclays Bank PLC, Deutsche Bank AG, and Goldman Sachs & Co. LLC to the convertible note hedges transactions we initially entered into in connection with the issuance of the 2023 Notes. The

amendments provide that the options under the convertible note hedges corresponding to such repurchased 2023 Notes will remain outstanding notwithstanding such repurchase.

During the nine months ended September 30, 2021, in connection with the repurchases of $152.0 million in principal of the 2023 Notes for $156.0 million in cash, including accrued interest of $0.3 million, we entered into Warrant Early Unwind Agreements and Bond Hedge Unwind Agreements with Barclays Bank PLC, Deutsche Bank AG, and Goldman Sachs & Co. LLC to unwind a portion of the convertible note hedges transactions we initially entered into in connection with the issuance of the 2023 Notes. We paid $18.4 million as part of the Warrant Early Unwind Agreements reducing the number of shares covered by the warrants from3,018,327 to 2,559,254. We received $18.9 million as part of the Bond Hedge Early Unwind Agreements reducing the number of options under the convertible bond hedges to 598,021. These unwind transactions resulted in a $0.5 million net increase in additional paid-in-capital in our condensed consolidated balance sheet as of September 30, 2021.

The following table summarizes information about the 2023 Notes (in thousands):

	September 30, 2021	December 31, 2020
Principal amount of the 2023 Notes outstanding	$ 343,301	$ 495,280
Unamortized discount (including unamortized debt issuance cost)	(26,412)	(52,987)
Total long-term portion of notes payable	$ 316,889	$ 442,293
Carrying value of equity component of the 2023 Notes	$ 24,124	$ 48,397
Fair value of the 2023 Notes outstanding (Level 2)	$ 343,888	$ 466,053

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 and nine months ended September 30, 2021 was 10.1% and (15.1)%, respectively. The variance from the U.S. federal statutory tax rate of 21% for the three and nine months ended September 30, 2021 was due primarily to the $3.8 million and $37.6 million tax benefits associated with the Pfenex CVR adjustment recorded during the second and third quarters of 2021, respectively, due to the lower probability of achieving the specific development and regulatory milestone by December 31, 2021 as defined by the Pfenex CVR. Also contributing to the variance from the federal statutory rate are excess tax windfalls from share-based compensation due to increased stock option exercise activity, stock award vesting and appreciation of our stock price during the period. The effective tax rate for the three and nine months ended September 30, 2020 was 42.3% and 37.1%, respectively. The variances from the U.S. federal statutory tax rate of 21% for the three and nine months ended September 30, 2020 were primarily attributable to the mix of earnings in the jurisdictions with lower statutory rates than the U.S. offset by tax deductions related to stock award activities and tax deductions related to foreign derived intangible income.

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 9, Stockholders' Equity*, of the Notes to Consolidated Financial Statements in our 2020 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, 2020	2,561,822	$ 85.59	206,202	$ 106.88
Granted	363,889	$ 160.36	165,117	$ 170.04
Options exercised/RSUs vested	(564,302)	$ 52.55	(95,657)	$ 126.48
Forfeited	(121,472)	$ 109.27	(9,575)	$ 138.81
Balance as of September 30, 2021	2,239,937	$ 104.77	266,087	$ 137.88

As of September 30, 2021, outstanding options to purchase 1.4 million shares were exercisable with a weighted average exercise price per share of $95.53.

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 September 30, 2021, 46,866 shares were available for future purchases under the ESPP.

Share Repurchases

We did not have any share repurchases during the nine months ended September 30, 2021.

On September 11, 2019, our Board of Directors approved a stock repurchase program authorizing, but not obligating, the repurchase of up to $500.0 million of our common stock from time to time over the next three years. We expect to acquire shares primarily through open-market transactions and may enter into Rule 10b5-1 trading plans, to facilitate open-market repurchases. The timing and amount of repurchase transactions will be determined by management based on our evaluation of market conditions, share price, legal requirements and other factors. Authorization to repurchase $248.8 million of our common stock remained available as of September 30, 2021.

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 October 31, 2019, we received three civil complaints filed in the US District Court for the Northern District of Ohio on behalf of several Indian tribes. The Northern District of Ohio is the Court that the Judicial Panel on Multi-District Litigation ("JPML") has assigned more than one thousand civil cases which have been designated as a Multi-District Litigation ("MDL") and captioned In Re: National Prescription Opiate Litigation. The allegations in these complaints focus on the activities of defendants other than the company and no individualized factual allegations have been advanced against us in any of the three complaints. We reject all claims raised in the complaints and intend to vigorously defend these matters.

CyDex and Baxter Healthcare Corp. ("Baxter") are parties to a license agreement relating to Ligand's Captisol technology and, more specifically, relating to Captisol-enabled Nexterone (amiodarone HCl premixed injection). Baxter contends that it has overpaid royalties for several years, and seeks both refunds of those overpayments and a reduced royalty going forward. CyDex contends that Baxter has not paid the royalties due to CyDex under the terms of the license agreement. On April 6, 2021, Baxter initiated an arbitration with the American Arbitration Association pursuant to the arbitration provision of the license agreement. On April 21, 2021, CyDex filed an Answering Statement and Counterdemand. On May 5, 2021, Baxter filed an Answering Statement in response to CyDex's Counterdemand. On June 30, 2021, the parties' held a Preliminary Hearing before the arbitrator. The arbitration is in its early stages.

8. Leases

We lease certain office facilities and equipment primarily under various operating leases. Our leases have remaining contractual terms up to ten 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 adjusted for lease incentives and other items as prescribed by ASC Topic 842,*Leases*. Lease terms include options to extend or terminate the lease when it is reasonably certain that those options will be exercised.

In addition to base rent, certain of our operating leases require variable payments, such as insurance and common area maintenance. These variable lease costs, other than those dependent upon an index or rate, are expensed when the obligation for those payments is incurred. 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 and Finance Lease Assets and Liabilities (in thousands):

Assets	**September 30, 2021**	**December 31, 2020**
Operating lease assets	$ 12,951	$ 6,892
Finance lease assets	16,795	15,842
Total lease assets	$ 29,746	$ 22,734
Liabilities		
Current operating lease liabilities	$ 2,181	$ 1,885
Current finance lease liabilities	45	6,593
	2,226	8,478
Long-term operating lease liabilities	11,467	$ 5,643
Long-term finance lease liabilities	72	$ 112
Total lease liabilities	$ 13,765	$ 14,233

During the three and nine months ended September 30, 2021, we entered into several new lease agreements including our Emeryville headquarter expansion and a new Icagen office lease, which resulted an increase in operating lease assets and liabilities of $8.7 million and $9.2 million, respectively, for the portion of the leases with a starting accounting lease commencement date during the period.

Maturity of Operating Lease Liabilities as of September 30, 2021 (in thousands):

Maturity Dates	**Operating Leases**
Remaining three months ending December 31, 2021	$ 690
2022	357
2023	2,279
2024	2,114
2025	1,990
Thereafter	9,081
Total lease payments	16,511
Less imputed interest	(2,864)
Present value of lease liabilities	13,647

9. Subsequent Event

On November 9, 2021, we announced we are pursuing plans to split Ligand into two separate, publicly traded companies with one featuring the OmniAb platform and its large and growing customer base, and the other featuring Ligand's existing collection of core royalties and the technologies, pipeline and contracts associated with the Pelican protein expression platform and the Captisol business. Based on initial management and advisor review, an IPO and eventual distribution of OmniAb shares to Ligand shareholders is the leading option under consideration at this time. The IPO would be of newly issued shares of OmniAb, Inc. (formerly OMT), including Ab Initio computational antigen design, Icagen's ion channel technology, xPloration

high-throughput screening technology, and the suite of OmniAb animals used for antibody discovery. In an IPO, we expect OmniAb to issue less than 20% of its common stock, with us retaining the remaining interest, which would eventually be distributed to our stockholders in a manner generally intended to qualify as a tax-free transaction. Our Board of Directors has not approved a specific course of action, and we will continue to evaluate other options to optimize value and ensure flexibility to invest in growth. There can be no assurance that this process will result in us pursuing a particular transaction or consummating any such transaction. We do not expect to disclose further developments relating to this strategic review process, unless and until our Board of Directors approves a specific transaction or otherwise concludes this review. There can be no assurance that this process will result in the Company pursuing a particular transaction or consummating any such transaction.

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 and manufacturing capacity, our Kyprolis and other product royalty revenues, the impact of COVID-19, product returns, product development, and the potential separation of the OmniAb business. 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, 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.

We use our trademarks, trade names and services marks in this report as well as trademarks, trade names and service marks that are the property of other organizations. Solely for convenience, trademarks and trade names referred to in this report appear without the ® and ™ symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these trade marks and trade names.

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 or acquiring technologies that help pharmaceutical companies discover and develop medicines. We employ research technologies such as antibody discovery technologies, ion channel discovery technology, *Pseudomonas fluorescens* protein expression technology, formulation science and liver targeted pro-drug technologies to assist companies in their work toward securing prescription drug and biologic approvals. We currently have partnerships and license agreements with over 130 pharmaceutical and biotechnology companies. Over 300 programs are in various stages of commercialization, development or research and are fully funded by our collaboration partners and licensees. We have contributed novel research and technologies for approved medicines that treat cancer, osteoporosis, fungal infections and postpartum depression, among others. Our collaboration partners and licensees have programs currently in clinical development targeting cancer, seizure, diabetes, cardiovascular disease, muscle wasting, liver disease, and kidney disease, among others. We have over 1,400 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, sale of Captisol material, and contract revenue from license, milestone and other service payments. 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.

Impact of COVID-19 Pandemic

For information on the various risks to our business posed by the COVID-19 pandemic, please read Item 1A.*"Risk Factors"* included in this report and in our 2020 Annual Report.

Portfolio Program Updates

OmniAb® Platform Updates

OmniAb is our industry-leading, BI- (Biological Intelligence™) powered multi-species antibody platform for the discovery of monospecific and bispecific therapeutic human antibodies. 2020 was a year of major investment in OmniAb with the acquisition and development of multiple technologies that enhance the offering for partners, including the addition of antigen-generation services as well as deep-sequence analysis of functional antibody repertoires. As of September 30, 2021, 19 different OmniAb-derived antibodies have been studied in approximately 84 active or completed clinical trials.

Gloria Biosciences received approval from China's National Medical Products Administration (NMPA) for zimberelimab (GLS-010), an OmniAb-derived anti-PD-1 monoclonal antibody for the treatment of recurrent or refractory classical Hodgkin's lymphoma. Gloria Biosciences holds development and commercialization rights in China with respect to zimberelimab through a sublicense agreement with Ligand's licensee Wuxi Biologics Ireland Limited. Zimberelimab is the first OmniAb-derived antibody to receive regulatory approval.

CStone Pharmaceuticals presented the clinical data in a late-breaking abstract at ESMO Congress 2021 from the GEMSTONE-301 trial, a registrational study of OmniAb-derived sugemalimab in the treatment of patients with stage III non-small cell lung cancer (NSCLC). The data for sugemalimab as a consolidation therapy demonstrated a statistically significant and clinically meaningful improvement in progression-free survival (PFS). Sugemalimab was well-tolerated with no new safety signals. CStone also presented updated data from the registrational study of sugemalimab in patients with stage IV NSCLC in a late-breaking oral presentation at the IASLC 2021 World Conference on Lung Cancer. The final analysis confirmed the efficacy and safety demonstrated in the interim analysis, showing that sugemalimab plus chemotherapy was associated with a significant improvement of PFS as first-line treatment in patients with both squamous and non-squamous metastatic NSCLC. Additionally, the estimated 2-year overall survival rate was nearly 50%. NDAs for sugemalimab in patients with metastatic stage IV NSCLC and in patients with locally advanced/unresectable stage III NSCLC have been accepted by China's NMPA and are currently under review.

Aptevo Therapeutics announced positive Phase 1 data showing some patients with relapsed acute myeloid leukemia (AML) or myelodysplastic syndrome (MDS) achieved a remission with APVO436 after failing 1-8 lines of prior therapies. Aptevo Therapeutics presented a poster at the Congress on Controversies in Leukemias on the Phase 1B data obtained so far. Additional data was published in the peer-reviewed journal, Cancers, showing the risk of cytokine release syndrome is low for blood cancer patients treated with APVO436. APVO436 is an OmniAb-derived bispecific antibody targeting CD123 and CD3 for the treatment of hematological malignancies.

Harbour BioMed announced dosing of the first patient in the registrational Phase 3 trial with batoclimab (HBM9161), its OmniAb-derived anti-FcRn monoclonal antibody, for the treatment of generalized myasthenia gravis (gMG). This study aims to assess the efficacy and safety of batoclimab in patients with gMG in China. Harbour BioMed also announced dosing of the first patient in the Phase 2 clinical trial in China of batoclimab for the treatment of thyroid eye disease. Harbour BioMed licensed batoclimab from HanAll Biopharma and has the right to develop, manufacture and commercialize in Greater China (including Hong Kong, Macau and Taiwan).

OmniAb partnered with LandingAI to incorporate an industry leading LandingLens™ visual inspection software platform to strengthen the xPloration™ deep screening platform using AI and computer vision.

During the third quarter of 2021, we entered into an OmniAb licensing agreement with Pierre Fabre.

Pelican Platform Updates

The Pelican Expression Technology™ is our proprietary *Pseudomonas fluorescens* protein expression technology that has major collaborations with Jazz Pharmaceuticals, Merck, Serum Institute of India and Alvogen, each of which has potential to contribute meaningfully to our royalty revenue.

Merck announced VAXNEUVANCE™ met key immunogenicity and safety endpoints in a Phase 3 pivotal trial evaluating use in infants. The FDA approved VAXNEUVANCE for adults 18 years of age and older in July and Merck has submitted a supplemental regulatory licensure application to the FDA for use in children. On October 20, 2021, the Center for Disease Control's committee on immunization practices provisionally recommended vaccination either with a sequential regimen of VAXNEUVANCE followed by PNEUMOVAX23, or with a single dose of 20-valent pneumococcal conjugate vaccine for adults 65 years and older, and for adults ages 19 to 64 with certain underlying medical conditions or other disease risk factors.

Jazz Pharmaceuticals announced the National Comprehensive Cancer Network added Rylaze™ to its Clinical Practice Guidelines in Oncology as a treatment option for both pediatric and adult acute lymphoblastic leukemia patients with hypersensitivity to E. coli asparaginase products as a component of the multi-agent chemotherapeutic regimen.

Captisol® Business Updates

Marinus announced a collaboration with Orion Corporation for European commercialization of Captisol-enabled ganaxolone. Ganaxolone IV is being investigated in a randomized, placebo-controlled Phase 3 trial for refractory status epilepticus, with data readout expected in the second half of 2022.

Takeda announced the Phase 3 PANTHER trial studying pevonedistat plus azacytidine as first-line treatment for patients with higher-risk MDS, chronic myelomonocytic leukemia and low-blast AML did not achieve pre-defined statistical significance for the primary endpoint of event-free survival. Takeda plans to submit full data results for presentation at an upcoming medical conference.

Other Business Updates

Travere Therapeutics announced positive topline interim results from the ongoing Phase 3 PROTECT study of sparsentan in IgA nephropathy. Sparsentan treatment demonstrated a statistically significant mean reduction of proteinuria from baseline after 36 weeks, more than threefold the reduction of active comparator irbesartan ($p<0.0001$). Travere held a Type A meeting with the U.S. FDA for sparsentan in focal segmental glomerulosclerosis (FSGS) confirming plans to submit additional data in the first half of 2022 as part of an accelerated approval submission. Travere also announced the FDA concurred that the interim analyses from the PROTECT Study support submission of an application for accelerated approval, and that they expect to submit the NDA of sparsentan for IgAN in the first quarter of 2022. Additionally, Travere and Vifor Pharma entered into a licensing agreement for the commercialization of sparsentan in Europe, Australia and New Zealand. Travere plans to submit a combined IgAN and FSGS MAA application for conditional marketing authorization of sparsentan in Europe in mid-2022.

We entered into a collaboration agreement with China Resources Double-Crane for exclusive Asia rights to develop a novel investigational oral COVID-19 antiviral therapeutic compound using our BEPro technology. BEPro is a proprietary prodrug technology for the development of compounds with improved product profiles. We had generated preclinical pharmacokinetics data showing its oral BEPro-enabled COVID-19 antivirals have favorable blood concentration profiles and generated lower levels of active nucleotide in the kidney, a potential site for toxicity, compared with other oral and intravenous compounds.

Sermonix Pharmaceuticals announced completion of enrollment in the Phase 2 ELAINE 1 randomized trial assessing oral lasofoxifene versus intramuscular fulvestrant for the treatment of ER+/HER2- breast cancer in patients with an ESR1 mutation. Sermonix expects data from the trial to be reported in the first half of 2022. Lasofoxifene is also being studied in a separate fully-enrolled trial, ELAINE 2, in combination with Eli Lilly and Company's CDK4 and 6 inhibitor Verzenio® (abemaciclib). Topline data are also expected in the first half of 2022.

Results of Operations

Revenue

(Dollars in thousands)	Q3 2021	Q3 2020	Change	% Change	YTD 2021	YTD 2020	Change	% Change
Royalties	**$ 15,648**	$ 9,005	$ 6,643	74 %	**$ 31,376**	$ 22,751	$ 8,625	38 %
Captisol	**35,093**	23,389	11,704	50 %	**128,875**	68,966	59,909	87 %
Contract revenue	**14,094**	9,454	4,640	49 %	**44,409**	24,712	19,697	80 %
Total revenue	**$ 64,835**	$ 41,848	$ 22,987	55 %	**$ 204,660**	$ 116,429	$ 88,231	76 %

Royalty revenue is a function of our partners' product sales and the applicable royalty rate. Kyprolis royalty rates are under a tiered royalty rate structure with the highest tier being 3.0%. Evomela has a fixed royalty rate of 20%. Contract revenue includes service revenue, license fees and development, regulatory and sales based milestone payments.

The following table represents royalty revenue by program:

(in millions)	Q3 2021 Estimated Partner Product Sales	Effective Royalty Rate	Q3 2021 Royalty Revenue	Q3 2020 Estimated Partner Product Sales	Effective Royalty Rate	Q3 2020 Royalty Revenue
Kyprolis	**$ 312.3**	**2.8 %**	**$ 8.8**	$ 277.2	2.5 %	$ 6.9
Evomela	**13.3**	**20.0 %**	**2.7**	9.0	20.0 %	1.8
Other	**59.7**	**7.0 %**	**4.2**	45.6	0.6 %	0.3
Total	**$ 385.3**		**$ 15.6**	$ 331.8		$ 9.0

(in millions)	YTD 2021 Estimated Partner Product Sales	Effective Royalty Rate	YTD 2021 Royalty Revenue	YTD 2020 Partner Product Sales	Effective Royalty Rate	YTD 2020 Royalty Revenue
Kyprolis	**$ 842.5**	**2.2 %**	**$ 18.5**	$ 832.3	2.0 %	$ 16.8
Evomela	**36.0**	**20.0 %**	**7.2**	22.9	20.0 %	4.6
Other	**131.5**	**4.3 %**	**5.6**	132.2	1.0 %	1.4
Total	**$ 1,010.0**		**$ 31.3**	**$ 987.4**		**$ 22.8**

Q3 2021 vs. Q3 2020

Total revenue increased by $23.0 million, or 55%, to $64.8 million in Q3 2021 compared to $41.8 million in Q3 2020 primarily reflecting higher sales of Captisol for use in the manufacturing of remdesivir. Royalties and contract revenue increased in Q3 2021 compared to Q3 2020, with the increase primarily attributable to the additional revenue from our Pfenex acquisition in October 2020 as well as an increase in partner product sales of Kyprolis and Evomela.

YTD 2021 vs. YTD 2020

Total revenue increased by $88.2 million, or 76%, to $204.7 million in YTD 2021 compared to $116.4 million in the same period last year primarily reflecting higher sales of Captisol for use in the manufacturing of remdesivir. Contract revenue increased in YTD 2021 compared to the same period last year, with the increase primarily attributable to the additional contract revenue of $8.0 million and $8.5 million from the acquisitions of Icagen in April 2020 and Pfenex in October 2020, respectively. An increase in partner product sales of Kyprolis and Evomela as well as the acquisition of Pfenex contributed to the increase in royalty revenue from the same period in 2020.

Operating Costs and Expenses

(Dollars in thousands)	Q3 2021	% of Revenue	Q3 2020	% of Revenue	YTD 2021	% of Revenue	YTD 2020	% of Revenue
Cost of Captisol	**$ 11,446**		$ 6,353		**$ 50,192**		$ 18,680	
Amortization of intangibles	**11,827**		3,875		**35,391**		11,285	
Research and development	**16,938**		12,853		**50,769**		37,476	
General and administrative	**12,718**		15,020		**39,747**		34,353	
Other operating income	**(3,800)**		—		**(37,600)**		—	
Total operating costs and expenses	**$ 49,129**	76%	$ 38,101	91%	**$ 138,499**	68%	$ 101,794	87%

Q3 2021 vs. Q3 2020

Total operating costs and expenses during Q3 2021 increased by $11.0 million, or 29%, compared to Q3 2020 primarily due to additional operating costs attributable to Pfenex, which we acquired on October 1, 2020, as well as an increase in Captisol sales for the current period. The increase was partially offset by a $3.8 million non-cash valuation adjustment recorded in the third quarter of 2021 to eliminate the remaining Pfenex CVR liability. See additional information on the Pfenex CVR liability in *Note 2, Fair Value Measurements.*

Cost of Captisol increased primarily due to higher Captisol sales during Q3 2021 compared to Q3 2020. Cost of Captisol as a percentage of Captisol revenue was 33% in Q3 2021 compared to 27% in Q3 2020, with the increase primarily due to amortization of capacity expansion payments to our supplier of Captisol during Q3 2021.

Amortization of intangibles increased in Q3 2021 compared to the same period in 2020 primarily due to the amortization of contractual relationships and technologies acquired from Pfenex in October 2020.

At any one time, we are working on multiple programs. As such, we generally do not track our R&D expenses on a specific program basis. Our R&D expenses increased year over year in Q3 2021 due to the $3.8 million costs associated with our Pfenex acquisition, which primarily consisted of salaries and lab costs.

General and administrative expenses decreased in Q3 2021 compared to the same period in 2020 primarily due to the acquisition and integration costs incurred in Q3 2020, partially offset by the additional expenses from the Pfenex acquisition as well as increased share-based compensation expense.

Other operating income in Q3 2021 included a $3.8 million non-cash valuation adjustment to reduce the Pfenex CVR liability. The decrease in Pfenex CVR liability is due to an expected lower probability of achieving the required milestone under the Pfenex CVR Agreement, which provides for payment to Pfenex CVR holders upon notice from the FDA that teriparatide injection receives an “A” therapeutic equivalence designation relative to the listed drug FORTEO by December 31, 2021. Based on feedback from the FDA, our commercial partner, Alvogen, will perform and submit to the FDA the results from an assessment to address concerns relating to potential innate immunogenicity, reducing the probability of achieving the milestone by December 31, 2021. There were no items recorded in other operating income in Q3 2020.

YTD 2021 vs. YTD 2020

Total operating costs and expenses during YTD 2021 increased by $36.7 million, or 36%, compared to YTD 2020 primarily due to additional operating costs attributable to Icagen and Pfenex, as well as higher Captisol sales during YTD 2021. The increases were partially offset by a $37.6 million non-cash valuation adjustment to reduce the Pfenex CVR liability. See additional disclosure on the Pfenex CVR liability in *Note 2, Fair Value Measurements.*

Cost of Captisol increased primarily due to higher Captisol sales during YTD 2021 compared to YTD 2020. Cost of Captisol as a percentage of Captisol revenue was 39% in YTD 2021 compared to 27% in YTD 2020, with the increase primarily due to the significant sales to the Gilead consortium partners in India who had sales prices lower than other customers during the second quarter of 2021.

Amortization of intangibles increased in YTD 2021 compared to the same period in 2020 primarily due to the amortization of contractual relationships and technologies acquired from Icagen in April 2020 and Pfenex in October 2020.

At any one time, we are working on multiple programs. As such, we generally do not track our R&D expenses on a specific program basis. Our R&D expenses increased year over year in YTD 2021 due to the $13.0 million costs associated with our Pfenex acquisition, which primarily consisted of salaries and lab costs.

General and administrative expenses increased in YTD 2021 compared to the same period in 2020 primarily due to the additional expenses from the Pfenex and Icagen acquisitions as well as increased share-based compensation expense.

Other operating income in YTD 2021 primarily included a $37.6 million non-cash valuation adjustment to eliminate the Pfenex CVR liability during YTD 2021 as mentioned above. There were no items recorded in other operating income in YTD 2020.

Other Income (Expense)

(Dollars in thousands)	Q3 2021	Q3 2020	Change	YTD 2021	YTD 2020	Change
Gain (loss) from short-term investments	**$ 1,937**	$ (9,862)	$ 11,799	**$ 8,135**	$ (17,143)	$ 25,278
Interest income	**169**	991	(822)	**698**	7,690	(6,992)
Interest expense	**(4,439)**	(6,269)	1,830	**(15,154)**	(21,030)	5,876
Other income (expense), net	**1,886**	(219)	2,105	**(5,516)**	1,940	(7,456)
Total other income (expense), net	**$ (447)**	$ (15,359)	$ 14,912	$ (11,837)	$ (28,543)	$ 16,706

Q3 2021 vs. Q3 2020

The fluctuation in the gain (loss) from short-term investments is primarily driven by the changes in the fair value of our ownership in Viking common stock and warrants (an unrealized gain of $1.6 million in Q3 2021 as compared to an unrealized loss of $11.7 million in Q3 2020).

Interest income consists primarily of interest earned on our short-term investments. The decrease over the prior period was due to the decrease in our short-term investment balance.

Interest expense includes the 0.75% coupon cash interest expense in addition to the non-cash accretion of discount (including the amortization of debt issuance cost) on our 2023 Notes for the three months ended September 30, 2021. The decrease was primarily due to a lower average debt outstanding balance during Q3 2021 as compared to Q3 2020. During the nine months ended September 30, 2021, we repurchased $152.0 million in principal of the 2023 Notes for $156.0 million in cash, including accrued interest of $0.3 million. See *Note 4, Convertible Senior Notes.*

Other income (expense), net, in Q3 2021 increased by $2.1 million as compared to Q3 2020, due primarily to a $2.0 million reduction in fair value adjustment of Metabasis and Icagen CVRs during Q3 2021. See *Note 2, Fair Value Measurements.*

YTD 2021 vs. YTD 2020

The fluctuation in the gain (loss) from short-term investments is primarily driven by the changes in the fair value of our ownership in Viking common stock and warrants (an unrealized gain of $2.4 million in YTD 2021 as compared to an unrealized loss of $17.9 million in YTD 2020).

Interest income consists primarily of interest earned on our short-term investments. The decrease over the prior period was due to the decrease in our short-term investment balance.

Interest expense includes the 0.75% coupon cash interest expense in addition to the non-cash accretion of discount (including the amortization of debt issuance cost) on our 2023 Notes for the nine months ended September 30, 2021. The decrease was primarily due to a lower average debt outstanding balance during YTD 2021 as compared to YTD 2020. During the nine months ended September 30, 2021, we repurchased $152.0 million in principal of the 2023 Notes for $156.0 million in cash, including accrued interest of $0.3 million. See *Note 4, Convertible Senior Notes.*

Other income (expense), net, in YTD 2021 included a $7.3 million loss on debt extinguishment in connection with the 2023 Notes repurchase during the nine months ended September 30, 2021.

Income Tax Benefit (Expense)

(Dollars in thousands)	Q3 2021	Q3 2020	Change	YTD 2021	YTD 2020	Change
Income (loss) before income taxes	**$ 15,259**	$ (11,612)	$ 26,871	**$ 54,324**	$ (13,908)	$ 68,232
Income tax benefit (expense)	**(1,536)**	4,911	(6,447)	**8,230**	5,162	3,068
Income (loss) from operations	**$ 13,723**	$ (6,701)	$ 20,424	**$ 62,554**	$ (8,746)	$ 71,300
Effective tax rate	10.1 %	42.3 %		(15.1) %	37.1 %	

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. The effective tax rate for the three and nine months ended September 30, 2021 was 10.1% and (15.1)%, respectively. The variance from the U.S. federal statutory tax rate of 21%

for the three and nine months ended September 30, 2021 was significantly impacted by tax benefits related to (1) a $3.8 million and $37.6 million associated with the Pfenex CVR adjustment recorded during the third and second quarters of 2021, respectively, due to the lower probability of achieving the specific development and regulatory milestone by December 31, 2021 as defined by the Pfenex CVR, and (2) net excess tax windfalls from share-based compensation resulting from increased stock option exercise activity. The effective tax rate for the three and nine months ended September 30, 2020 was 42.3% and 37.1%, respectively. The variances from the U.S. federal statutory tax rate of 21% for the three and nine months ended September 30, 2020 were primarily attributable to the mix of earnings in the jurisdictions with lower statutory rates than the U.S. offset by tax deductions related to stock award activities and tax deductions related to foreign derived intangible income tax credits.

Liquidity and Capital Resources

As of September 30, 2021, our cash, cash equivalents, and short-term investments totaled $323.2 million, which decreased by $88.0 million from the end of 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 short-term 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. Our short-term investments include U.S. government debt securities, investment-grade corporate debt securities, mutual funds 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 6.7 million shares of common stock in Viking.

In May 2018, we issued an aggregate principal amount of $750.0 million of the 2023 Notes. In conjunction of the 2023 Notes offering, we used a portion of the proceeds from such issuance totaling $49.7 million to repurchase 260,000 shares of our common stock. During the nine months ended September 30, 2021, we repurchased $152.0 million in principal of the 2023 Notes for $156.0 million in cash, including accrued interest of $0.3 million. After the repurchases, $343.3 million in principal amount of the 2023 Notes remain outstanding. We may continue to use cash on hand to repurchase additional 2023 Notes through open-market transactions, including through Rule 10b5-1 trading plans to facilitate open-market repurchases, or otherwise, from time to time. The timing and amount of repurchase transactions will be determined by management based on the evaluation of market conditions, trading price of the 2023 Notes, legal requirements and other factors. The 2023 Notes were not convertible as of September 30, 2021. 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. See *Note 4, Convertible Senior Notes.*

We believe that our existing funds, cash generated from operations and existing sources of and access to financing are adequate to fund our need for working capital, capital expenditures, debt service requirements, continued advancement of research and development efforts, potential stock repurchases and other business initiatives we plan to strategically pursue, including acquisitions and strategic investments.

As of September 30, 2021, we had $9.4 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 March 2032. In addition, we signed our new Emeryville headquarter expansion leases and Icagen leases during the nine months ended September 30, 2021 as discussed below under the "*Contractual Obligations*" section. The lease agreements provide for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases between 3.0% to 4.0%. See *Note 8, Leases.* We had no off-balance sheet arrangements at September 30, 2021 and December 31, 2020.

Cash Flow Summary

(Dollars in thousands)	YTD 2021	YTD 2020
Net cash provided by (used in):		
Operating activities	$ 51,156	$ 54,049
Investing activities	$ 66,236	$ 613,850
Financing activities	$ (141,925)	$ (283,016)

During the nine months ended September 30, 2021, we repurchased $152.0 million in principal of the 2023 Notes for $156.0 million in cash, including accrued interest of $0.3 million. During the nine months ended September 30, 2020, we repurchased $234.4 million in principal of the 2023 Notes for $203.8 million in cash, including accrued interest of $0.6 million, used $73.3 million to repurchase our common stock, paid $15.1 million in cash for the Icagen acquisition, and a total of $11.6 million in cash for xCella and Taurus acquisitions.

Contractual Obligations

There have been no material changes outside the ordinary course of business to the Contractual Obligations table set forth in our 2020 Annual Report, other than the addition to our operating lease liabilities (adjusted for the lease incentives) for the portion of the new leases with a starting accounting commencement date during the nine months ended September 30, 2021. See *Note 8, Leases.*

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 as compared to the critical accounting policies and estimates described in our 2020 Annual Report, 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,* related to allowance for credit losses.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

There were no substantial changes to our market risks in the three and nine months ended September 30, 2021, when compared to the disclosures in Item 7A of our 2020 Annual Report.

Item 4. Controls and Procedures

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures as of September 30, 2021 were effective to ensure that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

There were no changes in our internal control over financial reporting that occurred during the quarter ended September 30, 2021 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 2020 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 Part I. Item 1A. Risk Factors in our 2020 Annual Report, other than as set forth below:

Future revenue from sales of Captisol material to our license partners may be lower than expected.

Revenues from sales of Captisol material to our collaborative partners, including Amgen, Gilead and the Gilead consortium, represent a significant portion of our current revenues. Any setback that may occur with respect to Captisol could significantly impair our operating results and/or reduce the market price of our stock. Setbacks for Captisol could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation or reimbursement, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products using Captisol. In addition, revenue from Captisol sales related to remdesivir may not continue or materially increase due to a number of factors, including: if Gilead successfully develops or manufactures an alternative formulation of remdesivir that does not incorporate Captisol or uses less Captisol in such formulation; if remdesivir is later shown to not be effective or safe for the treatment of COVID-19; the FDA revises or revokes its approval of remdesivir; if alternative therapies or vaccines are approved, including potential treatments for COVID-19 in pill or other forms that are being developed or which may be developed by other companies; or the risk of COVID-19 infection significantly diminishes, in which case the commercial opportunity could be materially and adversely affected. For example, Gilead has announced plans to develop an inhaled dosage form of remdesivir that uses less Captisol than the current formulation and expects result from an ongoing proof-of-concept study later this year.

If products or product candidates incorporating Captisol material were to cause any unexpected adverse events, the perception of Captisol safety could be seriously harmed. If this were to occur, we may not be able to sell Captisol unless and until we are able to demonstrate that the adverse event was unrelated to Captisol, which we may not be able to do. Further, the FDA could require us to submit additional information for regulatory review or approval, including data from extensive safety testing or clinical testing of products using Captisol. This would be expensive and it may delay the marketing of Captisol-enabled products and receipt of revenue related to those products, which could significantly impair our operating results and/or reduce the market price of our stock.

We obtain Captisol from Hovione, our third party manufacturer, primarily at their facilities in Ireland and Portugal. If Hovione were to cease to be able, for any reason, to supply Captisol to us in the amounts we require, or decline to supply Captisol to us, we would be required to seek an alternative source, which could potentially take a considerable length of time and impact our revenue and customer relationships. In the event of a Captisol supply interruption, we are permitted to designate and, with Hovione's assistance, qualify one or more alternate suppliers, although there is no assurance that we could do so timely or at an acceptable cost, if at all. In addition to manufacturing at Hovione's facilities in Ireland and Portugal, we have now added final step processing capacity for Captisol in both the United States and England.

We maintain inventory of Captisol, which has a five year shelf life, at three geographically dispersed storage locations in the United States and Europe. If we were to encounter problems maintaining our inventory, such as natural disasters, at one or more of these locations, it could lead to supply interruptions. In addition, we will rely on Hovione to expand manufacturing capacity of Captisol and any failure by Hovione to timely implement such increased capacity could adversely affect our ability to supply Captisol to our partners. While we believe we maintain adequate inventory of Captisol to meet our current partner needs, and our planned expansion of Captisol capacity will be sufficient to meet future partner needs, our estimates and projections for Captisol demand may not be correct and any supply interruptions could materially adversely impact our operating results. In addition, our plan to invest additional capital for the expansion of Captisol manufacturing capacity may not yield a return on investment if future Captisol sales fall below our expectations.

We currently depend on our arrangements with our partners and licensees to sell products using our Captisol technology. These agreements generally provide that our partners may terminate the agreements at will. If our partners discontinue sales of products using Captisol, fail to obtain regulatory approval for products using Captisol, fail to satisfy their obligations under their agreements with us, choose to utilize a competing product, or if we are unable to establish new licensing and marketing relationships, our financial results and growth prospects would be materially affected. Furthermore, we maintain significant

accounts receivable balances with certain customers purchasing Captisol materials, which may result in the concentration of credit risk. We generally do not require any collateral from our customers to secure payment of these accounts receivable. If any of our major customers were to default in the payment of their obligations to us, our business, operating results and cash flows could be adversely affected.

Further, under most of our Captisol outlicenses, the amount of royalties we receive will be reduced or will cease when the relevant patent expires. Our low-chloride patents and foreign equivalents are not expected to expire until 2033, our high purity patents and foreign equivalents are not expected to expire until 2029 and our morphology patents and foreign equivalents are not expected to expire until 2026 in the United States, but the initially filed patents relating to Captisol expired starting in 2010 in the United States and in 2016 in most countries outside the United States. If our other intellectual property rights are not sufficient to prevent a generic form of Captisol from coming to market and if in such case our partners choose to terminate their agreements with us, our Captisol revenue may decrease significantly.

Our OmniAb antibody platform faces specific risks, including the fact that only one product using antibodies from the platform has been approved by a foreign regulatory agency.

To date, only one of our collaboration partners using our OmniAb antibody platform has received regulatory approval for marketing, with such approval coming from China's National Medical Products Administration. None of our other partners have received FDA or similar regulatory agency approval to market a product discovered from our platform. In addition, only a subset of our collaboration partners' product candidates have been tested in late stage clinical trials. If one of our OmniAb collaboration partners' product candidates fails during preclinical studies or clinical trials, our other OmniAb collaboration partners may decide to abandon product candidates using antibodies generated from the OmniAb platform, whether or not such failure is attributable to the platform. OmniAb collaboration partners may terminate their programs without penalty. In addition, our OmniAb platform is covered by 309 patents worldwide (including 62 patents within the U.S. and 15 patents in the European Union) and are subject to the same risks as our patent portfolio discussed elsewhere in this report and our 2020 Annual Report, including the risk that our patents may infringe on third party patent rights or that our patents may be invalidated. As of a result of these factors, the future revenue generated from this platform may be materially lower than what we currently anticipate. Further, we face significant competition from other companies selling human antibody-generating rodents, especially mice which compete with our OmniMouse platform, including the VelocImmune mouse, the AlivaMab mouse, the Alloy mouse and the Kymouse. Many of our competitors have greater financial, technical and human resources than we do and may be better equipped to develop, manufacture and market competing antibody platforms. Our competitors may render our OmniAb antibody platform obsolete, or limit the commercial value of any product candidates developed using our platform, by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages that we believe our platform offers.

Third party intellectual property may prevent us or our partners from developing our potential products; our and our partners' intellectual property may not prevent competition; and any intellectual property issues may be expensive and time consuming to resolve.

The manufacture, use or sale of our potential products or our licensees' products or potential products may infringe the patent rights of others. If others obtain patents with conflicting claims, we may be required to obtain licenses to those patents or to develop or obtain alternative technology. We may not be able to obtain any such licenses on acceptable terms, or at all. Any failure to obtain such licenses could delay or prevent us from pursuing the development or commercialization of our potential products.

Generally, our success will depend on our ability and the ability of our partners to obtain and maintain patents and other intellectual property rights for our and their potential products. Our patent position is uncertain and involves complex legal and technical questions for which legal principles are unresolved. Even if we or our partners do obtain patents, such patents may not adequately protect the technology we own or have licensed.

We permit our partners to list our patents that cover their branded products in the Orange Book. If a third party files an NDA or ANDA for a generic drug product that relies in whole or in part on studies contained in our partner's NDA for their branded product, the third party will have the option to certify to the FDA that, in the opinion of that third party, the patents listed in the Orange Book for our partner's branded product are invalid, unenforceable, or will not be infringed by the manufacture, use or sale of the third party's generic drug product. A third party certification that a new product will not infringe Orange Book-listed patents, or that such patents are invalid, is called a paragraph IV patent certification. If the third party submits a paragraph IV patent certification to the FDA, a notice of the paragraph IV patent certification must be sent to the NDA owner and the owner of the patents that are subject to the paragraph IV patent certification notice once the third-party's

NDA or ANDA is accepted for filing by the FDA. A lawsuit may then be initiated to defend the patents identified in the notice. The filing of a patent infringement lawsuit within 45 days of the receipt of notice of a paragraph IV patent certification automatically prevents the FDA from approving the generic NDA or ANDA until the earlier of the expiration of a 30-month period, the expiration of the patents, the entry of a settlement order stating that the patents are invalid or not infringed, a decision in the infringement case that is favorable to the NDA or ANDA applicant, or such shorter or longer period as the court may order. If a patent infringement lawsuit is not initiated within the required 45-day period, the third-party's NDA or ANDA will not be subject to the 30-month stay.

Several third-parties have challenged, and additional third parties may challenge, the patents covering our partner's branded products, including Kyprolis and Evomela, which could result in the invalidation or unenforceability of some or all of the relevant patent claims. We may from time to time become party to litigation or other proceedings as a result of Paragraph IV certifications. For example, as a result of the settlement of one such matter, Teva will be permitted to market a generic version of Evomela® in the United States on June 1, 2026 or earlier under certain circumstances. The terms of the settlement agreement are otherwise confidential. Also, as noted above, Amgen has settled patent litigation related to Kyprolis on confidential terms with several parties, but it has been publicly reported that the U.S. launch date for at least Breckenridge Pharmaceuticals' applicable generic product will be "on a date that is held as confidential in 2027 or sooner, depending on certain occurrences".

In addition, we cannot assure you that all of the potentially relevant prior art information that was or is deemed available to a person of skill in the relevant art prior to the priority date of the claimed invention-relating to our and our partners' patents and patent applications has been found. If such prior art exists, it can invalidate a patent or prevent a patent from issuing from a pending patent application, and we or our partners may be subject to a third party pre-issuance submission of prior art to the United States Patent and Trademark Office. Even if patents do successfully issue and even if such patents cover our or our partner's products or potential products, third parties may initiate litigation or opposition, interference, re-examination, post-grant review, inter partes review, nullification or derivation action in court or before patent offices, or similar proceedings challenging the validity, enforceability or scope of such patents, which may result in the patent claims being narrowed or invalidated, may allow third parties to commercialize our or our partners' products and compete directly with us and our partners, without payment to us or our partners, or limit the duration of the patent protection of our and our partners' technology and products.

Litigation or other proceedings to enforce or defend intellectual property rights are often very complex in nature, may be very expensive and time-consuming, may divert our management's attention from our core business, and may result in unfavorable results that could adversely impact our ability to prevent third parties from competing with our partner's products. Any adverse outcome of such litigation or other proceedings could result in one or more of our patents being held invalid or unenforceable, which could adversely affect our ability to successfully execute our business strategy and negatively impact our financial condition and results of operations. However, given the unpredictability inherent in litigation, we cannot predict or guarantee the outcome of these matters or any other litigation. Regardless of how these matters are ultimately resolved, these matters may be costly, time-consuming and distracting to our management, which could have a material adverse effect on our business.

In addition, periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to the U.S. and various foreign patent offices at various points over the lifetime of our and our licensees' patents and/or applications. We have systems in place to remind us to pay these fees, and we rely on our outside patent annuity service to pay these fees when due. Additionally, the U.S. and various foreign patent offices require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with rules applicable to the particular jurisdiction. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If such an event were to occur, it could have a material adverse effect on our business.

Any conflicts with the patent rights of others could significantly reduce the coverage of our patents or limit our ability to obtain meaningful patent protection. For example, our European patent related to Agglomerated forms of Captisol was limited during an opposition proceeding, and the rejection of our European patent application related to High Purity Captisol was upheld on appeal. In addition, any determination that our patent rights are invalid may result in early termination of our agreements with our license partners and could adversely affect our ability to enter into new license agreements. We also rely on unpatented trade secrets and know-how to protect and maintain our competitive position. We require our employees, consultants, licensees and others to sign confidentiality agreements when they begin their relationship with us. These

agreements may be breached, and we may not have adequate remedies for any breach. In addition, our competitors may independently discover our trade secrets.

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

The occurrence of any of the foregoing problems could be time-consuming and expensive and could adversely affect our financial position, liquidity and results of operations.

The occurrence of a catastrophic disaster could disrupt our business, damage our facilities beyond insurance limits or increase our costs and expenses.

We are vulnerable to damage and business disruptions from natural or man-made disasters, such as earthquakes, tornadoes, severe weather conditions, power loss, fire, floods and similar events, as well as from accidental loss or destruction. If any disaster were to occur, our ability to operate our business could be seriously impaired. We have property, liability, and business interruption insurance which may not be adequate to cover our losses resulting from disasters or other similar significant business interruptions, and we do not plan to purchase additional insurance to cover such losses due to the cost of obtaining such coverage. Any significant losses that are not recoverable under our insurance policies could seriously impair our business, financial condition and prospects. Our ability to obtain Captisol supply from our third-party manufactures could be disrupted if the operations of these manufacturers were affected by a natural or man-made disaster or other business interruption. In addition, we rely on our partners to generate most of our revenues through royalties, Captisol sales and development activities and any disruptions to their business as a result of such disasters could negatively impact our revenues.

Our plan to separate into two independent, publicly traded companies is subject to various risks and uncertainties and may not be completed in accordance with the expected plans or anticipated timeline, or at all and may not achieve the intended benefits, and will involve significant time, expense and management attention, any of which could negatively impact our businesses, financial condition and results of operations.

In November 2021, we announced our intention to split Ligand into two separate, publicly traded companies with one featuring the OmniAb business, including Ab Initio computational antigen design, Icagen’s ion channel technology, xPloration high-throughput screening technology, and the suite of OmniAb animals used for antibody discovery and the other featuring Ligand’s existing collection of core royalties, technologies, pipeline and contracts associated with the Pelican protein expression platform and the Captisol business. Based on an initial review, an IPO and eventual distribution of OmniAb shares to Ligand shareholders is the leading option under consideration at this time. Our Board of Directors has not approved a specific course of action, and we will continue to evaluate other options to optimize value and ensure flexibility to invest in growth. The separation, including the IPO and the distribution, if pursued, will be subject to market, tax and legal considerations, final approval by our Board of Directors and other customary requirements, and may not occur on the expected timeframe, or at all. Unanticipated developments, including difficulty in separating the assets and resources of our OmniAb business from the rest of our assets and resources, changes to the competitive environment for OmniAb’s or our respective businesses, possible delays in obtaining or failure to obtain tax opinions, regulatory or other approvals or clearances to approve or facilitate the separation, including the IPO and the distribution, uncertainty in financial markets and other challenges in executing the separation, including the IPO and the distribution, as planned, could delay or prevent the IPO or the distribution, or cause the separation, including the IPO and the distribution to occur on terms or conditions that are different or less favorable than expected.

Executing the proposed separation also requires significant time and attention from management and other employees, which could distract them from other tasks in operating our business. Our plans to pursue the separation may also have negative effects on relationships with our employees, partners, suppliers, and other third parties, disruptions in operations and ultimately harm our businesses, financial condition, results of operations and prospects. Even if the separation is completed, we may not realize some or all of the anticipated strategic, operational and financial benefits from the separation. Following the proposed separation, the combined value of the common stock of the two publicly-traded companies may not be equal to or greater than what the value of our common stock would have been had the proposed separation not occurred.

This quarterly report on Form 10-Q does not constitute an offer to sell or a solicitation of an offer to buy securities, and shall not constitute an offer, solicitation or sale in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of that jurisdiction.

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

None.

Item 3. Defaults Upon Senior Securities

None.

em 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit Number	Description
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 September 30, 2021, 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.*
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021, formatted in Inline XBRL and contained in Exhibit 101.

* 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: November 9, 2021

By: /s/ Matthew Korenberg
Matthew Korenberg
Executive Vice President, Finance and Chief Financial Officer
Duly Authorized Officer and Principal Financial Officer

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John L. Higgins, certify that:

1 I have reviewed this Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Incorporated;

2 Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3 Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

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

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

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

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

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

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

Date: November 9, 2021

/s/ John L. Higgins

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

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, 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.

Date: November 9, 2021

/s/ Matthew Korenberg

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

Exhibit 32.1

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 September 30, 2021, 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 Compa

Date: November 9, 2021

/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 September 30, 2021, 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

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Compa

Date: November 9, 2021

/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.