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, 2017

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

Commission File Number: 001-36329

Recro Pharma, Inc.
(Exact name of registrant as specified in its charter)

Pennsylvania	**26-1523233**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
490 Lapp Road, Malvern, Pennsylvania	**19355**
(Address of principal executive offices)	**(Zip Code)**

(484) 395-2470
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	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 Section13(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 7, 2017, there were 19,123,935 shares of common stock, par value $0.01 per share, outstanding.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

RECRO PHARMA, INC. AND SUBSIDIARIES
Consolidated Balance Sheets
(Unaudited)

(amounts in thousands, except share and per share data)	September 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 11,803	$ 64,483
Short-term investments	29,507	—
Accounts receivable	13,126	10,411
Inventory	9,891	8,746
Prepaid expenses and other current assets	2,785	1,118
Total current assets	67,112	84,758
Property, plant and equipment, net	38,197	37,300
Deferred income taxes	21,759	17,060
Intangible assets, net	35,496	37,433
Goodwill	6,446	6,446
Total assets	$ 169,010	$ 182,997
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$ 2,823	$ 4,132
Accrued expenses and other current liabilities	9,150	9,893
Current portion of contingent consideration	30,372	—
Current portion of long-term debt, net	—	2,236
Total current liabilities	42,345	16,261
Long-term debt, net	24,890	22,152
Warrants and other long-term liabilities	3,600	3,397
Long-term portion of contingent consideration	48,525	69,574
Total liabilities	119,360	111,384
Commitments and contingencies (Note 13)		
Shareholders' equity:		
Preferred stock, $0.01 par value. Authorized, 10,000,000 shares; none issued and outstanding	—	—
Common stock, $0.01 par value. Authorized, 50,000,000 shares; issued and outstanding, 19,060,260 shares at September 30, 2017 and 19,043,216 shares at December 31, 2016	191	190
Additional paid-in capital	136,732	132,691
Accumulated deficit	(87,265)	(61,268)
Accumulated other comprehensive loss	(8)	—
Total shareholders' equity	49,650	71,613
Total liabilities and shareholders' equity	$ 169,010	$ 182,997

See accompanying notes to consolidated financial statements.

RECRO PHARMA, INC. AND SUBSIDIARIES
Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)

(amounts in thousands, except share and per share data)	For the Three Months Ended September 30, 2017	For the Three Months Ended September 30, 2016	For the Nine Months Ended September 30, 2017	For the Nine Months Ended September 30, 2016
Revenue	$ 17,114	$ 16,951	$ 52,790	$ 51,973
Operating expenses:				
Cost of sales (excluding amortization of intangible assets)	6,882	5,745	27,829	25,563
Research and development	9,296	7,046	24,132	23,175
General and administrative	6,635	3,841	16,990	9,263
Amortization of intangible assets	646	646	1,937	1,937
Change in warrant valuation	808	402	15	47
Change in contingent consideration valuation	3,550	3,192	9,323	7,705
Total operating expenses	27,817	20,872	80,226	67,690
Operating loss	(10,703)	(3,921)	(27,436)	(15,717)
Other income (expense):				
Interest income	62	10	284	27
Interest expense	(1,235)	(1,450)	(3,625)	(4,279)
Net loss before income taxes	(11,876)	(5,361)	(30,777)	(19,969)
Income tax benefit (expense)	2,821	(18)	4,780	166
Net loss	$ (9,055)	$ (5,379)	$ (25,997)	$ (19,803)
Per share information:				
Net loss per share of common stock, basic and diluted	$ (0.48)	$ (0.50)	$ (1.36)	$ (2.01)
Weighted average common shares outstanding, basic and diluted	19,058,956	10,780,911	19,053,636	9,862,526
Other comprehensive loss:				
Unrealized gain (loss) on available-for-sale securities	68	—	(8)	—
Comprehensive loss	$ (8,987)	$ (5,379)	$ (26,005)	$ (19,803)

See accompanying notes to consolidated financial statements.

RECRO PHARMA, INC. AND SUBSIDIARIES
Consolidated Statements of Shareholders' Equity
For the Nine Months Ended September 30, 2017
(Unaudited)

(amounts in thousands, except share data)	Common Stock Shares	Common Stock Amount	Additional paid-in capital	Accumulated Deficit	Accumulated other comprehensive loss	Total
Balance, December 31, 2016	19,043,216	190	132,691	(61,268)	—	71,613
Stock-based compensation expense	—	—	4,265	—	—	4,265
Stock option exercise	4,256	1	26	—	—	27
Issuance of restricted stock units	12,788	—	(250)	—	—	(250)
Other comprehensive loss	—	—	—	—	(8)	(8)
Net loss	—	—		(25,997)	—	(25,997)
Balance, September 30, 2017	19,060,260	$ 191	$ 136,732	$ (87,265)	$ (8)	$ 49,650

See accompanying notes to consolidated financial statements.

RECRO PHARMA, INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
(Unaudited)

(amounts in thousands)	For the Nine Months Ended September 30, 2017	2016
Cash flows from operating activities:		
Net loss	$ (25,997)	$ (19,803)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	4,265	2,799
Non-cash interest expense	612	800
Depreciation expense	3,655	3,756
Amortization	1,937	1,937
Acquired in-process research and development charges	766	—
Change in warrant valuation	15	47
Change in contingent consideration valuation	9,323	7,705
Deferred income taxes	(4,698)	(352)
Changes in operating assets and liabilities, net of effect of acquisition:		
Inventory	(1,146)	(830)
Prepaid expenses and other current assets	(1,667)	(911)
Accounts receivable	(2,715)	(3,844)
Accounts payable, accrued expenses and other liabilities	(2,391)	4,498
Net cash used in operating activities	(18,041)	(4,198)
Cash flows from investing activities:		
Purchase of property and equipment	(4,586)	(2,014)
Purchase of short-term investments	(55,626)	—
Proceeds from maturity/redemption of investments	26,000	—
Acquisition of license agreement	(437)	—
Net cash used in investing activities	(34,649)	(2,014)
Cash flows from financing activities:		
Proceeds from Aspire facility	—	4,175
Payments on long-term debt	—	(6,324)
Proceeds from sale of common stock, net of transaction costs	—	13,367
Payments of withholdings on shares withheld for income taxes	(17)	(33)
Proceeds from option exercise	27	—
Net cash provided by financing activities	10	11,185
Net decrease in cash and cash equivalents	(52,680)	4,973
Cash and cash equivalents, beginning of period	64,483	19,779
Cash and cash equivalents, end of period	$ 11,803	$ 24,752
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 3,122	$ 3,479
Cash paid for taxes	$ 467	$ —
Unrealized loss on available-for-sale securities	$ 8	$ —
Purchase of property, plant and equipment included in accrued expenses and accounts payable	$ 774	$ 307
Amortization of deferred equity costs	$ —	$ 224
Withholdings on shares withheld for income taxes included in accrued expenses	$ 233	$ —
Retirement of fully depreciated property, plant and equipment	$ 152	$ —

See accompanying notes to consolidated financial statements.

(1) Background

Recro Pharma, Inc., or the Company, was incorporated in Pennsylvania on November 15, 2007. The Company is a specialty pharmaceutical company that operates through two business divisions: an Acute Care division and a revenue-generating contract development and manufacturing, or CDMO division. Each of these divisions are deemed to be reportable segments (see Note 3(m) and Note 17). The Acute Care division is primarily focused on developing innovative products for hospital and other acute care settings, and the CDMO division leverages the Company's formulation expertise to develop and manufacture pharmaceutical products using the Company's proprietary delivery technologies for commercial partners who commercialize or plan to commercialize these products. On April 10, 2015, the Company acquired from Alkermes plc, or Alkermes, worldwide rights to intravenous and intramuscular, or injectable, meloxicam, a proprietary long-acting preferential COX-2 inhibitor being developed for the management of moderate to severe pain, as well as a contract manufacturing facility, royalty and formulation business in Gainesville, Georgia. The acquisition is referred to herein as the Gainesville Transaction. In July 2017, the Company submitted a New Drug Application, or NDA, to the U.S. Food and Drug Administration, or the FDA, for its lead investigational product candidate intravenous, or IV, meloxicam 30 mg for the management of moderate to severe pain. The FDA has accepted the NDA for review and has set a Prescription Drug User Fee Act, or PDUFA, date of May 26, 2018.

(2) Development-Stage Risks and Liquidity

The Company has incurred losses from operations since inception and has an accumulated deficit of $87,265 as of September 30, 2017. Though its CDMO segment has been profitable, the Company anticipates incurring additional losses until such time, if ever, that it can generate significant sales of its products currently in development. Additional financing will be needed by the Company to fund its operations and to commercially develop its product candidates, including the payment of the Gainesville Transaction contingent payments, which may become due upon achievement of certain development and commercialization milestones for meloxicam (see Note 4). Insufficient funds may cause the Company to delay, reduce the scope of or eliminate one or more of its development, commercialization or expansion activities. The Company may raise such funds through debt refinancing, bank or other loans, through strategic research and development, licensing (including out-licensing) and/or marketing arrangements or through public or private sales of equity or debt securities from time to time. Financing may not be available on acceptable terms, or at all, and failure to raise capital when needed could materially adversely impact the Company's growth plans and its financial condition or results of operations. Additional equity financing, if available, may be dilutive to the holders of its common stock and may involve significant cash payment obligations and covenants that restrict the Company's ability to operate its business. The Company's future operations are highly dependent on a combination of factors, including (i) the continued profitability of the CDMO segment; (ii) the timely and successful completion of additional financing and/or alternative sources of capital, debt, partnering or out-licensing transactions; (iii) the success of its research and development, including the results and timing of its clinical trials; (iv) the development of competitive therapies by other biotechnology and pharmaceutical companies; and, ultimately, (v) regulatory approval and market acceptance of the Company's proposed future products. Management believes that the Company's existing cash, cash equivalents and short-term investments as of September 30, 2017 will be sufficient to fund its operations through mid-year 2018.

(3) Summary of Significant Accounting Principles

(a) Basis of Presentation and Principles of Consolidation

The accompanying unaudited consolidated financial statements of the Company and its subsidiaries have been prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP, for interim financial information and with the instructions of Form 10-Q and Article 10 of Regulation S-X and, therefore, do not include all of the information and notes required by the U.S. GAAP for complete annual financial statements. The Company's consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated. In the opinion of management, the accompanying consolidated financial statements include all normal and recurring adjustments (which consist primarily of accruals, estimates and assumptions that impact the financial statements) considered necessary to present fairly the Company's results for the interim periods. Operating results for the three and nine months ended September 30, 2017 are not necessarily indicative of the results that may be expected for the full year ending December 31, 2017.

The accompanying unaudited interim consolidated financial statements should be read in conjunction with the annual audited financial statements and related notes as of and for the year ended December 31, 2016 included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

(b) Use of Estimates

The preparation of financial statements and the notes to the financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from such estimates.

(c) Cash and Cash Equivalents

Cash and cash equivalents represents cash in banks and highly liquid short-term investments that have maturities of three months or less when acquired to be cash equivalents. These highly liquid short-term investments are both readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of the changes in interest rates.

(d) Property and Equipment

Property and equipment are recorded at cost less accumulated depreciation and amortization. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets, which are as follows: three to ten years for furniture and office equipment; six to ten or more years for manufacturing equipment; two to five years for vehicles; 35 to 40 years for buildings; and the shorter of the lease term or useful life for leasehold improvements. Repairs and maintenance cost are expensed as incurred.

(e) Business Combinations

In accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 805, "Business Combinations," or ASC 805, the Company allocates the purchase price of acquired companies to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values. Valuations are performed to assist in determining the fair values of assets acquired and liabilities assumed, which requires management to make significant estimates and assumptions, in particular with respect to intangible assets. Management makes estimates of fair value based upon assumptions believed to be reasonable. These estimates are based in part on historical experience and information obtained from management of the acquired companies and expectations of future cash flows. Transaction costs and restructuring costs associated with the transaction are expensed as incurred. In-process research and development, or IPR&D, is the value assigned to those projects for which the related products have not received regulatory approval and have no alternative future use. Determining the portion of the purchase price allocated to IPR&D requires the Company to make significant estimates. In a business combination, the Company capitalizes IPR&D as an intangible asset, and for an asset acquisition the Company expenses IPR&D in the Consolidated Statements of Operations and Comprehensive Loss on the acquisition date.

(f) Goodwill and Intangible Assets

Goodwill represents the excess of purchase price over the fair value of net assets acquired by the Company. Goodwill is not amortized, but assessed for impairment on an annual basis or more frequently if impairment indicators exist. The impairment model prescribes a two-step method for determining impairment.

The first step compares a reporting unit's fair value to its carrying amount to identify potential goodwill impairment. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, the second step of the impairment test must be completed to measure the amount of the reporting unit's goodwill impairment loss, if any. Step two requires an assignment of the reporting unit's fair value to the reporting unit's assets and liabilities to determine the implied fair value of the reporting unit's goodwill. The implied fair value of the reporting unit's goodwill is then compared with the carrying amount of the reporting unit's goodwill to determine the goodwill impairment loss to be recognized, if any.

Intangible assets include the Company's royalties and contract manufacturing relationships intangible asset as well as an IPR&D asset. The royalties and contract manufacturing relationships intangible asset is considered a definite-lived intangible asset and is amortized on a straight-line basis over a useful life of six years.

Intangible assets related to IPR&D are considered indefinite-lived intangible assets and are assessed for impairment annually or more frequently if impairment indicators exist. If the associated research and development effort is abandoned, the related assets will be written-off, and the Company will record a noncash impairment loss on its Consolidated Statements of Operations and Comprehensive Loss. For those compounds that reach commercialization, the IPR&D assets will be amortized over their estimated useful lives.

The impairment test for indefinite-lived intangible assets is a one-step test, which compares the fair value of the intangible asset to its carrying value. If the carrying value exceeds its fair value, an impairment loss is recognized in an amount equal to the excess. Based on accounting standards, it is required that these assets be assessed at least annually for impairment unless a triggering event occurs between annual assessments, which would then require an assessment in the period which a triggering event occurred. The most recent tests as of November 30, 2016, indicated that goodwill and indefinite-lived intangible assets were not impaired. There were no indicators of impairment as of September 30, 2017.

(g) Revenue Recognition

The Company generates revenues from research and development, manufacturing, packaging and related services for multiple pharmaceutical companies through its CDMO segment. The agreements that the Company has with its commercial partners provide for manufacturing revenues, royalties and/or profit sharing components.

Manufacturing and other related services revenue is recognized when persuasive evidence of an arrangement exists, shipment has occurred and the title to the product and associated risk of loss has passed to the customer, the sales price is fixed or determinable and collectability is reasonably assured.

In addition to manufacturing and packaging revenue, the customer agreements have royalties and/or profit sharing payments, computed on the net product sales of the commercial partner. Royalty and profit sharing revenues are generally recognized under the terms of the applicable license, development and/or supply agreement in the period the products are sold and when collectability is reasonably assured.

Revenues related to research and development are generally recognized as the related services or activities are performed, in accordance with the contract terms. To the extent that the agreements specify services are to be performed on a fixed basis, revenues are recognized consistent with the pattern of the work performed. In agreements which specify milestones, the Company recognizes revenue from non-refundable milestone payments when the earnings process is complete and the payment is reasonably assured. Non-refundable milestone payments related to arrangements under which the Company has continuing performance obligations would be deferred and recognized over the period of performance.

(h) Concentration of Credit Risk

Financial instruments that potentially subject the Company to significant concentration of credit risk consist primarily of cash, cash equivalents, short-term investments and accounts receivable. The Company manages its cash, cash equivalents and short-term investments based on established guidelines relative to diversification and maturities to maintain safety and liquidity.

The Company's accounts receivable balances are concentrated amongst approximately five customers and if any of these customers' receivable balances should be deemed uncollectible, it could have a material adverse effect on the Company's results of operations and financial condition.

(i) Research and Development

Research and development costs for the Company's proprietary products/product candidates are charged to expense as incurred. Research and development expenses consist primarily of funds paid to third parties for the provision of services for pre-commercialization and manufacturing scale-up activities, drug development, clinical trials, statistical analysis and report writing and regulatory filing fees and compliance costs. At the end of the reporting period, the Company compares payments made to third-party service providers to the estimated progress toward completion of the research or development objectives. Such estimates are subject to change as additional information becomes available. Depending on

the timing of payments to the service providers and the progress that the Company estimates has been made as a result of the service provided, the Company may record net prepaid or accrued expenses relating to these costs.

Upfront and milestone payments made to third parties who perform research and development services on the Company's behalf are expensed as services are rendered. Costs incurred in obtaining product technology licenses are charged to research and development expense as acquired IPR&D if the technology licensed has not reached technological feasibility and has no alternative future use.

(j) Stock-Based Awards

The Company measures employee stock-based awards at grant-date fair value and recognizes employee compensation expense on a straight-line basis over the vesting period of the award.

Determining the appropriate fair value of stock options requires the input of subjective assumptions, including the expected life of the option and expected stock price volatility. The Company uses the Black-Scholes option pricing model to value its stock option awards. The assumptions used in calculating the fair value of stock-based awards represent management's best estimates and involve inherent uncertainties and the application of management's judgment. As a result, if factors change and/or management uses different assumptions, stock-based compensation expense could be materially different for future awards.

The expected life of stock options was estimated using the "simplified method," as the Company has limited historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for its stock options grants. The simplified method is based on the average of the vesting tranches and the contractual life of each grant. For stock price volatility, the Company uses the historical volatility of our publicly traded stock in order to estimate future stock price trends. The risk-free interest rate is based on U.S. Treasury notes with a term approximating the expected life of the option.

Non-employee stock-based awards are revalued until an award vests and the Company recognizes compensation expense on a straight-line basis over the vesting period of each separated vesting tranche of the award, which is known as the accelerated attribution method. The estimation of the number of stock awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from the Company's current estimates, such amounts are recognized as an adjustment in the period in which estimates are revised.

(k) Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in operations in the period that includes the enactment date. A valuation allowance is recorded to the extent it is more likely than not that some portion or all of the deferred tax assets will not be realized.

Unrecognized income tax benefits represent income tax positions taken on income tax returns that have not been recognized in the consolidated financial statements. The Company recognizes the benefit of an income tax position only if it is more likely than not (greater than 50%) that the tax position will be sustained upon tax examination, based solely on the technical merits of the tax position. Otherwise, no benefit is recognized. The tax benefits recognized are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The Company does not anticipate significant changes in the amount of unrecognized income tax benefits over the next year.

(l) Net Loss Per Common Share

Basic net loss per common share is determined by dividing net loss applicable to common shareholders by the weighted average common shares outstanding during the period. For all periods presented, the outstanding common stock options, warrants and unvested restricted stock units have been excluded from the calculation of diluted net loss per share because their effect would be anti-dilutive.

(amounts in thousands, except share and per share data)

For purposes of calculating diluted loss per common share, the denominator includes both the weighted average common shares outstanding and the number of common stock equivalents if the inclusion of such common stock equivalents would be dilutive. There are no dilutive common stock equivalents for the three and nine months ended September 30, 2017.

The following table sets forth the computation of basic earnings per share and diluted earnings per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Basic Earnings Per Share				
Net loss	$ (9,055)	$ (5,379)	$ (25,997)	$ (19,803)
Weighted average common shares outstanding, basic and diluted	19,058,956	10,780,911	19,053,636	9,862,526
Net loss per share of common stock, basic and diluted	$ (0.48)	$ (0.50)	$ (1.36)	$ (2.01)

The following potentially dilutive securities have been excluded from the computations of diluted weighted average shares outstanding as of September 30, 2017 and 2016, as they would be anti-dilutive:

	September 30,	
	2017	2016
Options and restricted stock units outstanding	3,928,013	2,363,794
Warrants	784,928	784,928

Amounts in the table above reflect the common stock equivalents of the noted instruments.

(m) Segment Information

The Company determined its reportable segments based on its strategic business units, the commonalities among the products and services within each segment and the manner in which the Company reviews and evaluates operating performance. The Company has identified CDMO and Acute Care as reportable segments. Segment disclosures are included in Note 17. Segment operating profit (loss) is defined as segment revenue less segment operating expenses (segment operating expenses consist of general and administrative expenses, research and development expenses, and the change in valuation of contingent consideration and warrants). The following items are excluded from segment operating profit (loss): interest income and expense, and income tax benefit (expense). Segment assets are those assets and liabilities that are recorded and reported by segment operations. Segment operating capital employed represents segment assets less segment liabilities.

(n) Recent Accounting Pronouncements

In July 2017, the FASB issued Accounting Standards Update, or ASU, No. 2017-11 *"Earnings Per Share (Topic 260); Distinguishing Liabilities from Equity (Topic 480); Derivatives and Hedging (Topic 815): Accounting for Certain Financial Instruments with Down Round Features,"* or ASU 2017-11. ASU 2017-11 simplifies the accounting for certain financial instruments with down round features, as equity-linked instruments or embedded equity-linked features will not be accounted for as a liability solely because there is a down-round feature. The amendments are effective for public companies for annual and interim periods beginning after December 15, 2018. The Company is currently evaluating the effect that this guidance may have on its consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, *Stock Compensation - Scope of Modification Accounting*. ASU 2017-09 provides guidance on which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. The new standard is effective for fiscal years beginning after December 15, 2017. The Company is currently evaluating the effect that this guidance may have on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04 *"Intangibles - Goodwill and Other (Topic 350): Simplifying the Accounting for Goodwill Impairment,"* or ASU 2017-04. ASU 2017-04 allows companies to apply a one-step quantitative test and record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value,

not to exceed the total amount of goodwill allocated to the reporting unit. The amendments of the ASU are effective for annual or interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company is currently evaluating the effect that this guidance may have on its consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15 *"Classification of Certain Cash Receipts and Cash Payments,"* or ASU 2016-15. ASU 2016-15 provides guidance in the classification of certain cash receipts and payments in the statement of cash flows where diversity in practice exists. This new guidance is effective for annual periods beginning after December 15, 2017, with early adoption permitted. The Company is currently evaluating the effect that the updated standard will have on its consolidated financial statements and related disclosures.

In February 2016, the FASB issued ASU No. 2016-02, "*Leases (Topic 842),*" or ASU 2016-02. ASU 2016-02 establishes a wholesale change to lease accounting and introduces a lease model that brings most leases on the balance sheet. It also eliminates the required use of bright-line tests in current U.S. GAAP for determining lease classification. The new guidance is effective for annual and interim periods beginning after December 15, 2018, with early adoption permitted. The Company is currently evaluating the effect that this guidance may have on its consolidated financial statements.

In September 2015, the FASB issued ASU No. 2015-16, "*Business Combinations (Topic 805): Simplifying the Accounting for Measurement-Period Adjustments,"* or ASU 2015-16. ASU 2015-16 addresses the accounting for and disclosure of measurement-period adjustments that occur in periods after a business combination is consummated. This update requires that the acquirer recognize measurement-period adjustments in the reporting period in which they are determined. Prior period information should not be revised. This update also requires an entity to present separately on the face of the income statement or disclose in the notes the amount recorded in the current-period income statement that would have been recorded in previous reporting periods if the adjustments had been recognized as of the acquisition date. The updated guidance is effective for annual and interim periods beginning after December 15, 2016. The Company adopted the guidance effective January 1, 2017. The guidance did not have a material impact to the consolidated financial statements upon adoption.

In July 2015, the FASB issued ASU No. 2015-11, "*Simplifying the Measurement of Inventory,"* or ASU 2015-11. ASU 2015-11 addresses changes in the measurement principle for inventory from the lower of cost or market to the lower of cost and net realizable value. The amendments in this guidance do not apply to inventory that is measured using last-in, first-out, or LIFO, or the retail inventory method. The amendments apply to all other inventory, which includes inventory that is measured using first-in, first-out or average cost methods. Within the scope of this new guidance, an entity should measure inventory at the lower of cost and net realizable value; where net realizable value is defined as the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. The new guidance is effective for annual periods beginning after December 15, 2016, with early adoption permitted. The new guidance must be applied on a prospective basis. The Company adopted the guidance effective January 1, 2017. The guidance did not have a material impact to the consolidated financial statements upon adoption.

In May 2014, the FASB issued ASU No. 2014-09, *"Revenue from Contracts with Customers,"* or ASU 2014-09. ASU 2014-09 represents the accounting for and disclosures of revenue recognition, with an effective date for annual and interim periods beginning after December 15, 2016. The update provides a single comprehensive model for accounting for revenue from contracts with customers. The model requires that revenue recognized reflect the actual consideration to which the entity expects to be entitled in exchange for the goods or services defined in the contract, including in situations with multiple performance obligations. In July 2015, the FASB deferred the effective date by one year. The guidance will be effective for annual and interim periods beginning after December 15, 2017. The new standard permits two methods of adoption: the full retrospective method, which requires the standard to be applied to each prior period presented, or the modified retrospective method, which requires the cumulative effect of adoption to be recognized as an adjustment to opening retained earnings in the period of adoption. The Company currently anticipates adopting the standard using the modified retrospective method. The Company has made substantial progress towards completion of its analysis of existing contracts with customers and its assessment of the differences in accounting for such contracts under ASU 2014-09 compared with current revenue accounting standards. The new standard will result in additional revenue-related disclosures in the footnotes to the consolidated financial statements. The Company will continue to assess new customer contracts during 2017. Adoption of this standard will require changes to business processes, systems and controls to support the additional required disclosures. The Company is in the process of implementing such changes.

(4) Acquisition of Gainesville Facility and Meloxicam

On April 10, 2015, the Company completed the Gainesville Transaction. The consideration paid in connection with the Gainesville Transaction consisted of $50.0 million cash at closing, a $4.0 million working capital adjustment and a seven-year warrant to purchase 350,000 shares of the Company's common stock at an exercise price of $19.46 per share. In addition, the Company may be required to pay up to an additional $125.0 million in milestone payments including $45 million upon regulatory approval, as well as net sales milestones related to injectable meloxicam and a percentage of future product net sales related to injectable meloxicam between 10% and 12% (subject to a 30% reduction when no longer covered by patent). Under the acquisition method of accounting, the consideration paid and the fair value of the contingent consideration and royalties are allocated to the fair value of the assets acquired and liabilities assumed. The contingent consideration obligation is remeasured each reporting date with changes in fair value recognized as a period charge within the statement of operations (see Note 6 for further information regarding fair value).

The contingent consideration consists of three separate components. The first component will be payable upon regulatory approval. The second component consists of three potential payments, based on the achievement of specified annual revenue targets. The third component consists of a royalty payment for a defined term on future meloxicam net sales.

The fair value of the first contingent consideration component recognized on the acquisition date was estimated by applying a risk-adjusted discount rate to the probability-adjusted contingent payments and the expected approval dates. The fair value of the second contingent consideration component recognized on the acquisition date was estimated by applying a risk-adjusted discount rate to the potential payments resulting from probability-weighted revenue projections and expected revenue target attainment dates. The fair value of the third contingent consideration component recognized on the acquisition date was estimated by applying a risk-adjusted discount rate to the potential payments resulting from probability-weighted revenue projections and the defined royalty percentage.

These fair values are based on significant inputs not observable in the market, which are referred to in the guidance as Level 3 inputs. The contingent consideration components are classified as liabilities and are subject to the recognition of subsequent changes in fair value through the results of operations.

(5) NMB Related License Agreement

In June 2017, the Company acquired the exclusive global rights to two novel neuromuscular blocking agents, or NMBs, and a proprietary chemical reversal agent from Cornell University, or Cornell. The NMBs and reversal agent are referred to herein as the NMB Related Compounds. The NMB Related Compounds include one novel intermediate-acting NMB that has initiated Phase I clinical trials and two other agents, a novel short-acting NMB, and a rapid-acting reversal agent proprietary to these NMB Related Compounds.

The transaction was accounted for as an asset acquisition, with the total cost of the acquisition of $766 allocated to acquired IPR&D. The Company recorded an upfront payment obligation of $350, as well as operational liabilities and acquisition-related costs of $416, primarily consisting of reimbursement to Cornell for specified past patent, legal and pre-clinical costs, of which $329 is reported as a component of Accrued expenses and other current liabilities and Other non-current liabilities on the Consolidated Balance Sheet as of September 30, 2017.

In addition, the Company is obligated to make: (i) an annual license maintenance fee payment until the first commercial sale of the NMB Related Compounds; and (ii) milestone payments upon the achievement of certain milestones, up to a maximum, for each NMB, of $5 million for U.S. regulatory approval and commercialization milestones and $3 million for European regulatory approval and commercialization milestones. The Company is also obligated to pay Cornell royalties on net sales of the NMB Related Compounds at a rate ranging from low to mid-single digits, depending on the applicable NMB Related Compounds and whether there is a valid patent claim in the applicable country, subject to an annual minimum royalty amount. Further, the Company will reimburse Cornell ongoing patent costs related to prosecution and maintenance of the patents related to the Cornell patents for the NMB Related Compounds.

The Company accounted for the transaction as an asset acquisition based on an evaluation of the accounting guidance (ASC Topic 805) and considered the early clinical stage of the novel and unproven NMB Related Compounds. The Company concluded that the acquired IPR&D of Cornell did not constitute a business as defined under ASC 805 due to the incomplete nature of the inputs and the absence of processes from a market participant perspective. Substantial additional research and development will be required to develop any NMB Related Compounds into a commercially viable drug candidate, including completion of pre-clinical testing and clinical trials, and, if such clinical trials are successful, application for regulatory

approvals and manufacturing repeatability and scale-up. There is risk that a marketable compound may not be well tolerated and may never be approved.

Acquired IPR&D in the asset acquisition was accounted for in accordance with FASB ASC Topic 730, "Research and Development." At the date of acquisition, the Company determined that the development of the projects underway at Cornell had not yet reached technological feasibility and that the research in process had no alternative future uses. Accordingly, the acquired IPR&D was charged to expense in the Consolidated Statements of Operations and Comprehensive Loss on the acquisition date. The acquired IPR&D charge is expected to be deductible over a 15-year period for income tax purposes.

(6) Fair Value of Financial Instruments

The Company follows the provisions of FASB ASC Topic 820, "Fair Value Measurements and Disclosures," for fair value measurement recognition and disclosure purposes for its financial assets and financial liabilities that are remeasured and reported at fair value each reporting period. The Company measures certain financial assets and liabilities at fair value on a recurring basis, including cash equivalents, short-term investments, warrants and the contingent consideration. The Company's assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of financial assets and financial liabilities and their placement within the fair value hierarchy. Categorization is based on a three-tier valuation hierarchy, which prioritizes the inputs used in measuring fair value, as follows:

- Level 1: Observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2: Inputs that are other than quoted prices in active markets for identical assets and liabilities, inputs that are quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are either directly or indirectly observable; and
- Level 3: Unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

(amounts in thousands, except share and per share data)

The Company has classified assets and liabilities measured at fair value on a recurring basis as follows:

	Fair value measurements at reporting date using		
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
At December 31, 2016:			
Assets:			
Money market mutual funds (See Note 7)	$ 37,079	$ —	$ —
U.S. Treasury obligations (See Note 7)	20,517	—	—
Cash equivalents	$ 57,596	$ —	$ —
Liabilities:			
Warrants (See Note 14(d))	—	—	$ 3,397
Contingent consideration (See Note 4)	—	—	69,574
	$ —	$ —	$ 72,971
At September 30, 2017:			
Assets:			
Cash equivalents			
Money market mutual funds (See Note 7)	$ 134	$ —	$ —
Total cash equivalents	$ 134	$ —	$ —
Short-term investments			
U.S. Treasury obligations (See Note 7)	$ 29,507	$ —	$ —
Total financial assets	$ 29,641	$ —	$ —
Liabilities:			
Warrants (See Note 14(d))	—	—	$ 3,412
Contingent consideration (See Note 4)	—	—	78,897
	$ —	$ —	$ 82,309

The Company developed its own assumptions to determine the value of the warrants that do not have observable inputs or available market data to support the fair value. This method of valuation involves using inputs such as the fair value of the Company's common stock, stock price volatility, the contractual term of the warrants, risk free interest rates and dividend yield. Due to the nature of these inputs, the valuation of the warrants is considered a Level 3 measurement.

The reconciliation of the contingent consideration and warrants measured at fair value on a recurring basis using unobservable inputs (Level 3) is as follows:

	Warrants	Contingent Consideration
Balance at December 31, 2016	$ 3,397	$ 69,574
Additions	—	—
Remeasurement	15	9,323
Total at September 30, 2017	$ 3,412	$ 78,897
Current portion	—	30,372
Long-term portion	3,412	48,525

The current portion of the contingent consideration represents the estimated probability adjusted fair value that is expected to become payable within one year as of September 30, 2017 (see Note 4 for additional information).

The Company follows the disclosure provisions of FASB ASC Topic 825, "Financial Instruments" (ASC 825), for disclosure purposes for financial assets and financial liabilities that are not measured at fair value. As of September 30, 2017, the financial

(amounts in thousands, except share and per share data)

assets and liabilities recorded on the Consolidated Balance Sheets that are not measured at fair value on a recurring basis include accounts receivable, accounts payable, accrued expenses and current debt obligations approximate fair value due to the short-term nature of these instruments. The fair value of long-term debt, where a quoted market price is not available, is evaluated based on, among other factors, interest rates currently available to the Company for debt with similar terms, remaining payments and considerations of the Company's creditworthiness. The Company determined that the recorded book value of long-term debt approximated fair value at September 30, 2017 due to the estimated amount of the Excess Cash Flow payments and terms of the debt.

(7) Short-term Investments

Short-term investments as of September 30, 2017 consist of government money market funds and U.S. Treasury obligations. In accordance with FASB ASC Topic 320, "Investments – Debt and Equity Securities," or ASC 320, the Company has classified its entire investment portfolio as available-for-sale securities with secondary or resale markets, and, as such, its portfolio is reported at fair value with unrealized gains and losses included in Comprehensive Income in stockholders' equity and realized gains and losses included in other income/expense. The following is a summary of available-for-sale securities as of September 30, 2017.

	September 30, 2017			
	Amortized	Gross Unrealized		Estimated
Description	Cost	Gain	Loss	Fair Value
Money market mutual funds	$ 134	$ —	$ —	$ 134
U.S. Treasury obligations	29,515	—	(8)	29,507
Total investments	$ 29,649	$ —	$ (8)	$ 29,641

As of September 30, 2017, the Company's investments had maturities ranging from one to four months. As of December 31, 2016, all of the Company's investments in US. Treasury obligations had original maturities of less than three months. The fair value of the Company's U.S. Treasury obligations is determined by taking into consideration valuations obtained from third-party pricing services. The third-party pricing services utilize industry standard valuation models, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. These inputs include reported trades of and broker/dealer quotes on the same or similar securities, issuer credit spreads, benchmark securities, and other observable inputs.

Certain investment securities as of September 30, 2017 had fair values less than their amortized costs and, therefore, contained unrealized losses. The Company has evaluated these investments and has determined that the decline in value was not related to any Company or industry specific event. As of September 30, 2017, there were 15 U.S. Treasury investments with unrealized losses. The gross unrealized losses related to these investments were due to changes in interest rates. Given that the Company has no intent to sell any of these investments until a recovery of its fair value, which may be at maturity, and there are no current requirements to sell any of these investments, the Company did not consider these investments to be other-than-temporarily impaired as of September 30, 2017. The Company anticipates full recovery of amortized costs with respect to these investments at maturity or sooner in the event of a more favorable market interest rate environment. The duration of time the investments had been in a continuous unrealized loss position as of September 30, 2017 was less than 6 months.

(amounts in thousands, except share and per share data)

(8) Inventory

Inventory is stated at the lower of cost and net realizable value. Included in inventory are raw materials and work-in-process used in the production of commercial products. Cost is determined using the first-in, first-out method. Inventory was as follows as of September 30, 2017 and December 31, 2016:

	September 30, 2017	December 31, 2016
Raw materials	$ 2,584	$ 2,618
Work in process	4,472	5,219
Finished goods	3,529	1,793
	10,585	9,630
Provision for inventory obsolescence	(694)	(884)
	$ 9,891	$ 8,746

The provision for inventory obsolescence decreased approximately $190 during the nine months ended September 30, 2017, primarily due to the disposal of the fully reserved inventory at December 31, 2016. Adjustments to inventory are determined at the raw materials, work-in-process, and finished good levels to reflect obsolescence or impaired balances. Inventory is ordered to meet specific customer orders and largely reflects demand. Factors influencing inventory obsolescence include changes in demand, product life cycle, product pricing, physical deterioration and quality concerns.

(9) Property, Plant and Equipment

Property, plant and equipment consists of the following:

	September 30, 2017	December 31, 2016
Land	$ 3,263	$ 3,263
Building and improvements	15,744	15,613
Furniture, office and computer equipment	4,993	3,811
Vehicles	30	30
Manufacturing equipment	22,602	21,508
Construction in progress	4,191	2,198
	50,823	46,423
Less: accumulated depreciation and amortization	12,626	9,123
Property, plant and equipment, net	$ 38,197	$ 37,300

Depreciation expense for the three and nine months ended September 30, 2017 was $1,231 and $3,655, respectively. Depreciation expense for the three and nine months ended September 30, 2016 was $1,245 and $3,756, respectively.

(10) Intangible Assets

The following represents the balance of the intangible assets at September 30, 2017:

	Cost	Accumulated Amortization	Net Intangible Assets
Royalties and contract manufacturing relationships:	$ 15,500	$ 6,404	$ 9,096
In-process research and development	26,400	—	26,400
Total	$ 41,900	$ 6,404	$ 35,496

(amounts in thousands, except share and per share data)

The following represents the balance of intangible assets at December 31, 2016:

	Cost	Accumulated Amortization	Net Intangible Assets
Royalties and contract manufacturing relationships:	$ 15,500	$ 4,467	$ 11,033
In-process research and development	26,400	—	26,400
Total	$ 41,900	$ 4,467	$ 37,433

Amortization expense for each of the nine months ended September 30, 2017 and 2016 was $1,937 and $1,937, respectively, and for the three months ended September 30, 2017 and 2016 was $646. As of September 30, 2017, future amortization expense is as follows:

	Amortization
October - December 2017	$ 645
2018	2,583
2019	2,583
2020	2,583
2021	702
Total	$ 9,096

(11) Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

	September 30, 2017	December 31, 2016
Clinical trial and related costs	$ —	$ 2,564
Professional and consulting fees	551	360
Payroll and related costs	4,996	4,547
Property plant and equipment	495	720
Deferred revenue	563	418
Income tax payable	—	311
Other	2,545	973
	$ 9,150	$ 9,893

(12) Long-Term Debt

The Company financed the Gainesville Transaction with cash on hand and a $50,000 five-year senior secured term loan, pursuant to a credit agreement, entered into on April 10, 2015, with OrbiMed Royalty Opportunities II, LP, or OrbiMed. The unpaid principal amount under the credit agreement is due and payable on April 10, 2020, the five-year anniversary of the loan provided thereunder by OrbiMed. The credit agreement also provides for certain mandatory prepayment events, including a quarterly excess cash flow prepayment requirement at OrbiMed's request. The Company may make voluntary prepayments in whole or in part, subject to: (i) on or prior to the 36-month anniversary of the closing of the credit agreement, payment of a buy-out premium amount equal to (A) for full prepayments of the unpaid principal amount, $75,000 less all previously prepaid principal amounts and all previously paid interest or (B) for partial prepayments of the unpaid principal amount, 0.5 times the partial prepayment amount less interest payments previously paid in respect to the partial prepayment amount and (ii) after the 36-month anniversary of the closing of the credit agreement, payment of an exit fee amount equal to 10% of the amount of any prepayments. As defined by the agreement, based upon the CDMO segment financial results, OrbiMed has the option to require the Company to prepay a portion of the loan balance based upon an Excess Cash Flow calculation. No payments under this option shall be subject to the buy-out premium. As of September 30, 2017, the Company has paid $22,653 of principal payments on the senior secured loan from the Excess Cash Flow calculation. The credit agreement carries interest at three month LIBOR

(amounts in thousands, except share and per share data)

plus 14.0% with a 1.0% floor. The Company's obligations under the senior term loan are secured by substantially all of the Company's assets.

The credit agreement contains certain usual and customary affirmative and negative covenants, as well as financial covenants that the Company will need to satisfy on a monthly and quarterly basis. As of September 30, 2017, the Company was in compliance with the covenants.

The Company issued to OrbiMed a warrant to purchase 294,928 shares of common stock, with an exercise price of $3.28 per share. The warrant is exercisable through April 10, 2022. The initial fair value of the warrant of $2,861 was recorded as debt issuance costs.

Debt issuance costs related to the term loan of $4,579, including the initial warrant fair value of $2,861, are being amortized to interest expense over the five-year term of the loan and netted with the loan principal amount. The unamortized balance of debt issuance costs is $2,457 as of September 30, 2017. As of September 30, 2017, the long-term debt balance is comprised of the following:

Principal balance outstanding	$	27,347
Unamortized deferred issuance costs		(2,457)
Total	$	24,890

The Company has estimated that no amount of the Excess Cash Flow payments will become payable within one year of September 30, 2017. The full amount of the debt is classified as long term in the accompanying consolidated balance sheet.

(13) Commitments and Contingencies

(a) Licenses

The Company is party to an exclusive license with Orion for the development and commercialization of Dexmedetomidine, or Dex, for use in the treatment of pain in humans in any dosage form for transdermal, transmucosal (including sublingual and intranasal), topical, enteral or pulmonary (inhalational) delivery, but specifically excluding delivery vehicles for administration by injection or infusion, worldwide, except for Europe, Turkey and the CIS (currently includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan), referred to herein as the Territory. The Company is required to pay Orion lump sum payments of up to €20,500 ($24,215 as of September 30, 2017) on the achievement of certain developmental and commercial milestones, as well as a royalty on net sales during the term, which varies from 10% to 20% depending on annual sales levels. Through September 30, 2017, no such milestones have been achieved.

The Company is also party to an exclusive license agreement with Orion for the development and commercialization of Fadolmidine, or Fado, for use as a human therapeutic, in any dosage form in the Territory. The Company is required to pay Orion lump sum payments of up to €12,200 ($14,411 as of September 30, 2017) on achievement of certain developmental and commercial milestones, as well as a royalty on net sales during the term, which varies from 10% to 15% depending on annual sales levels. Through September 30, 2017, no such milestones have been achieved.

The Company is party to a license agreement with Cornell University for the exclusive license of the NMB Related Compounds. Under the terms of the agreement, the Company will pay Cornell an initial upfront fee and Cornell is also entitled to receive additional milestone payments, annual license maintenance fees as well as royalties. See Note 5 for further information regarding these payment obligations.

(b) Contingent Consideration for the Gainesville Transaction

Pursuant to the purchase and sale agreement governing the Gainesville Transaction, the Company agreed to pay to Alkermes up to an additional $125.0 million in milestone payments including $45 million upon regulatory approval, as well as net sales milestones related to injectable meloxicam and royalties on future product sales of injectable meloxicam between 10% and 12% (subject to a 30% reduction when no longer covered by patent).

The Company is party to a Development, Manufacturing and Supply Agreement, or Supply Agreement, with Alkermes (through a subsidiary of Alkermes), pursuant to which Alkermes will (i) provide clinical and commercial bulk supplies of injectable meloxicam formulation and (ii) provide development services with respect to the Chemistry, Manufacturing and Controls section of an NDA for injectable meloxicam. Pursuant to the Supply Agreement, Alkermes will supply the Company with such quantities of bulk injectable meloxicam formulation as shall be reasonably required for the completion of clinical trials of injectable meloxicam. During the term of the Supply Agreement, the Company will purchase its clinical and commercial supplies of bulk injectable meloxicam formulation exclusively from Alkermes, subject to certain exceptions, for a period of time.

(c) Litigation

The Company is involved, from time to time, in various claims and legal proceedings arising in the ordinary course of its business. Except as disclosed below, the Company is not currently a party to any such claims or proceedings that, if decided adversely to it, would either individually or in the aggregate have a material adverse effect on its business, financial condition or results of operations.

As part of the Gainesville Transaction, the Company acquired the rights to Zohydro ER®, which the Company licenses to its commercial partner, Pernix Therapeutics Holdings, Inc., or Pernix, in the United States, and which is subject to ongoing intellectual property litigation and proceedings.

Zohydro ER® has been subject to six paragraph IV certifications, two of which were filed in 2014 by Actavis plc, or Actavis, and Alvogen Pine Brook, Inc., or Alvogen, regarding the filing of Abbreviated NDAs, or ANDAs, with the FDA for a generic version of Zohydro ER®, one of which was filed in April 2015 by Actavis regarding the filing of a supplemental ANDA, or sANDA, and another three of which were filed in November 2015 and October 2016 by Actavis, and in December 2015 by Alvogen regarding one of the Company's recently issued patents relating to a formulation of Zohydro ER®. These certification notices allege that three U.S. patents listed in the FDA's Orange Book for Zohydro ER®, with an expiration date of November 2019 and September 2034, will not be infringed by Actavis' or Alvogen's proposed products, are invalid and/or are unenforceable. In 2014, Daravita Limited (a subsidiary of Alkermes and the Company's predecessor in interest) filed suit against each of Actavis and Alvogen in the U.S. District Court for the District of Delaware based on the ANDAs, and in 2015, the Company filed suit against Actavis in the U.S. District Court for the District of Delaware based on the sANDA. In September 2016, Recro Gainesville LLC entered into a settlement agreement with Alvogen pursuant to which the case against Alvogen was dismissed. In February 2017, the District Court in the Actavis case ruled in Recro Gainesville LLC's favor and enjoined Actavis from selling the proposed generic version of Zohydro ER®. Actavis has appealed this decision to the U.S. Court of Appeals for the Federal Circuit. In October 2017, Recro Gainesville LLC filed suit against Actavis in the U.S. District Court for the District of Delaware based upon another recently issued patent relating to a formulation of Zohydro ER®. Under Recro Gainesville LLC's license agreement with Pernix, Recro Gainesville LLC has the right to control the enforcement of its patents and related proceedings involving Zohydro ER® and any prospective generic entrant, and Pernix has the obligation to reimburse Recro Gainesville LLC for all reasonable costs of such actions.

In addition, in April 2015, the U.S. Patent and Trademark Office, or the USPTO, declared an interference between one of the Company's patent applications relating to a dosage form of Zohydro ER® and two Purdue Pharma, LP, or Purdue, applications. In April 2016, the USPTO found Recro Gainesville LLC's claims and the Purdue claims involved in the interference to be invalid. In June 2016, Purdue appealed this decision to the U.S. Court of Appeals for the Federal Circuit and in June 2017, the U.S. Court of Appeals for the Federal Circuit affirmed the decision of the USPTO in Recro Gainesville's favor and dismissed Purdue's appeal.

(d) Leases

On January 1, 2017, the Company entered into a six-year lease for its Malvern, Pennsylvania facility that expires on December 31, 2022. In February 2017, the Company also entered into a three-year lease for office space in Dublin, Ireland that expires April 2020. The Company is also a party to operating leases for office equipment and storage. Rent expense includes rent as well as additional operating and tenant improvement expenses.

(amounts in thousands, except share and per share data)

As of September 30, 2017, future minimum lease payments excluding operating expenses and tenant improvements for the leases, are as follows:

	Lease payments
2017	$ 151
2018	566
2019	502
2020	405
2021	362
2022	373
Total	$ 2,359

(e) Purchase Commitments

As of September 30, 2017, the Company had outstanding non-cancelable and cancelable purchase commitments in the amount of $22,338 related to inventory, capital expenditures and other goods and services, including pre-commercial/manufacturing scale-up and clinical activities.

(f) Certain Compensation and Employment Agreements

The Company has entered into employment agreements with certain of its named executive officers. As of September 30, 2017, these employment agreements provided for, among other things, annual base salaries in an aggregate amount of not less than $918, from that date through calendar year 2018.

(14) Capital Structure

(a) Common Stock

The Company is authorized to issue 50,000,000 shares of common stock, with a par value of $0.01 per share.

On March 12, 2014, the Company completed an initial public offering, or IPO, in which the Company sold 4,312,500 shares of common stock at $8.00 per share, resulting in gross proceeds of $34,500. In connection with the IPO, the Company paid $4,244 in underwriting discounts, commissions and offering costs, resulting in net proceeds of $30,256. Also in connection with the IPO, all of the outstanding shares of the Company's Series A Redeemable Convertible Preferred Stock, including accreted dividends, and Bridge Notes, including accrued interest, were converted into common stock.

On July 7, 2015, the Company closed a private placement with certain accredited investors in which the Company sold 1,379,311 shares of common stock at a price of $11.60 per share, for net proceeds of $14,812. The Company paid the placement agents a fee equal to 6.0% of the aggregate gross proceeds from the private placement, plus reimbursement of certain expenses.

On August 19, 2016, the Company closed an underwritten public offering in which the company sold 1,986,666 shares of common stock at a price per share of $7.50, for net proceeds of $13,367 after deducting underwriting commissions and offering expenses.

On December 16, 2016, the Company closed an underwritten public offering in which the company sold 6,670,000 shares of common stock at a price per share of $6.00, for net proceeds of $36,888 after deducting underwriting commissions and offering expenses.

(b) Common Stock Purchase Agreement

On February 2, 2015, the Company entered into a Common Stock Purchase Agreement, or the Purchase Agreement, with Aspire Capital Fund, LLC, or Aspire Capital, pursuant to which Aspire Capital was committed to purchase, at the Company's election, up to an aggregate of $10,000 of shares of the Company's common stock over the 24-month term of the Purchase Agreement. On the execution of the Purchase Agreement, the Company issued 96,463 shares of common stock to Aspire Capital with a fair value of $285, as consideration for entering in the Purchase Agreement. In addition, the

(amounts in thousands, except share and per share data)

Company incurred $253 of costs in connection with the Purchase Agreement, which, along with the fair value of the common stock, has been recorded as deferred equity costs. During 2016, the Company sold 1,143,940 shares of common stock under the Purchase Agreement for $7,796. The agreement expired in February 2017.

(c) Preferred Stock

The Company is authorized to issue 10,000,000 shares of preferred stock, with a par value of $0.01 per share. As of September 30, 2017, no preferred stock was issued or outstanding.

(d) Warrants

As of September 30, 2017, the Company had the following warrants outstanding to purchase shares of the Company's common stock:

Number of Shares	Exercise Price per Share	Expiration Date
140,000	$ 12.00	March 2019
350,000	$ 19.46	April 2022
294,928	$ 3.28	April 2022

The warrant to purchase 350,000 shares is liability classified since it contains a contingent net cash settlement feature. The warrant to purchase 294,928 shares is liability classified since it contains an anti-dilution provision. The fair value of both warrants will be remeasured through settlement or expiration with changes in fair value recognized as a period charge within the statement of operations.

The following table summarizes the fair value and the assumptions used for the Black-Scholes option-pricing model for these liability classified warrants.

	Date of issuance	September 30, 2017	December 31, 2016
Fair value	$ 5,331	$ 3,412	$ 3,397
Expected dividend yield	— %	— %	— %
Expected volatility	80 %	77 %	85 %
Risk-free interest rates	1.73 %	1.92 %	1.93 %
Remaining contractual term	7 years	4.50 years	5.25 years

(15) Comprehensive Loss

The Company's comprehensive loss is shown on the Consolidated Statements of Operations and Comprehensive Loss as of September 30, 2017, and is comprised of net unrealized gains and losses on the Company's available-for-sale securities. The total of comprehensive loss for the three and nine months ended September 30, 2017 was $8,987 and $26,005, respectively. The tax effect for the nine months ended September 30, 2017 of other comprehensive loss was $3.

(16) Stock-Based Compensation

The Company established the 2008 Stock Option Plan, or the 2008 Plan, which allows for the granting of common stock awards, stock appreciation rights, and incentive and nonqualified stock options to purchase shares of the Company's common stock to designated employees, non-employee directors, and consultants and advisors. As of September 30, 2017, no stock appreciation rights have been issued. Subsequent to adoption, the 2008 Plan was amended to increase the authorized number of shares available for grant to 444,000 shares of common stock. In October 2013, the Company established the 2013 Equity Incentive Plan, or the 2013 Plan, which allows for the grant of stock options, stock appreciation rights and stock awards for a total of 600,000 shares of common stock. In June 2015, the Company's shareholders approved the Amended and Restated Equity Incentive Plan, or the A&R Plan, which amended and restated the 2013 Plan and increased the aggregate amount of shares available for issuance to 2,000,000. On December 1st of each year, pursuant to the "Evergreen" provision of the A&R Plan, the number of shares available under the plan may be increased by the board of directors by an amount equal to 5% of the outstanding common stock on December 1st of that year. In December 2016 and 2015, the number of shares available for

(amounts in thousands, except share and per share data)

issuance under the A&R Plan was increased by 619,181 and 461,215, respectively. The total number of shares authorized for issuance under the A&R plan as of September 30, 2017 is 3,080,396.

Stock options are exercisable generally for a period of 10 years from the date of grant and generally vest over four years. As of September 30, 2017, 296,453 shares and 174 shares are available for future grants under the A&R Plan and 2008 Plan, respectively.

The weighted average grant-date fair value of the options awarded to employees during the nine months ended September 30, 2017 and 2016 was $5.39 and $5.02, respectively. The fair value of the options was estimated on the date of grant using a Black-Scholes option pricing model with the following assumptions:

	September 30,	
	2017	2016
Range of expected option life	6 years	6 years
Expected volatility	84.71%	79.95%
Risk-free interest rate	1.87-2.17%	1.07-1.91%
Expected dividend yield	—	—

The following table summarizes stock option activity during the nine months ended September 30, 2017:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual life
Balance, December 31, 2016	2,611,929	$ 7.01	
Granted	1,003,580	7.50	
Exercised	(4,256)	6.21	
Expired/forfeited/cancelled	(43,233)	8.12	
Balance, September 30, 2017	3,568,020	$ 7.14	7.3 years
Vested	1,897,174	$ 6.68	5.8 years
Vested and expected to vest	3,429,561	$ 7.10	7.2 years

Included in the table above are 740,000 options granted outside the plan. The grants were made pursuant to the NASDAQ inducement grant exception in accordance with NASDAQ Listing Rule 5635(c)(4).

The following table summarizes restricted stock units activity during the nine months ended September 30, 2017.

	Number of shares
Balance, December 31, 2016	7,750
Granted	369,043
Vested and settled	(15,050)
Expired/forfeited/cancelled	(1,750)
Balance, September 30, 2017	359,993
Expected to vest	359,993

During 2017, the Company granted 91,150 performance-based restricted stock units, or RSUs, which vested based on attaining clinical and operational goals during 2017, as well as 277,893 time-based RSUs, which vest over four years.

During September 2017, the performance condition associated with the Company's outstanding performance-based RSUs was achieved, which resulted in stock-based compensation expense of $656. Due to the timing of the achievement, these RSUs were settled with the issuance of common shares in October 2017, and remain outstanding as of September 30, 2017 in the table above. Included in the 15,050 units of restricted stock vested during the nine months ended September 30, 2017 as well as the 89,400 vested but not yet settled performance-based RSUs are 27,987 shares with a weighted average fair value of $8.92 per share that were withheld for withholding tax purposes upon vesting of such awards from stockholders who elected to net share settle such tax withholding obligation.

(amounts in thousands, except share and per share data)

Stock-based compensation expense for the nine months ended September 30, 2017 and 2016 was $4,265 and $2,799, respectively.

As of September 30, 2017, there was $11,086 of unrecognized compensation expense related to unvested options and RSUs that are expected to vest and will be expensed over a weighted average period of 2.8 years.

The aggregate intrinsic value represents the total amount by which the fair value of the common stock subject to options exceeds the exercise price of the related options. As of September 30, 2017, the aggregate intrinsic value of the vested and unvested options was $4,927 and $2,632, respectively.

(17) Segment Reporting

The Company operates through two business segments: an Acute Care segment and a revenue-generating CDMO segment. The Acute Care segment is primarily focused on developing innovative products for hospital and related settings, and the CDMO segment leverages the Company's formulation expertise to develop and manufacture pharmaceutical products using the Company's proprietary delivery technologies for commercial partners who commercialize or plan to commercialize these products. Acute Care has no revenue, and its costs consist primarily of expenses incurred in conducting the Company's clinical and preclinical studies, acquiring clinical trial materials, regulatory activities, personnel costs and pre-commercialization of meloxicam. CDMO revenue streams are derived from manufacturing, royalty and profit-sharing revenues, as well as CDMO's research and development services performed for commercial partners.

The accounting policies of the segments are the same as those described in the summary of significant accounting policies (see Note 3). The Company evaluates performance of its reportable segments based on revenue and operating income (loss). The Company does not allocate interest income, interest expense or income taxes to its operating segments.

The following table summarizes segment information as of and for the three and nine months ended September 30, 2017:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2017	2016	2017	2016
Revenues:				
CDMO	$ 17,114	$ 16,951	$ 52,790	$ 51,973
Acute Care	—	—	—	—
Total	$ 17,114	$ 16,951	$ 52,790	$ 51,973
Operating income (loss):				
CDMO	$ 7,781	$ 8,621	$ 18,039	$ 19,899
Acute Care	(18,484)	(12,542)	(45,475)	(35,616)
Total	$ (10,703)	$ (3,921)	$ (27,436)	$ (15,717)
Depreciation and amortization:				
CDMO	$ 1,854	$ 1,890	$ 5,556	$ 5,692
Acute Care	23	1	36	1
Total	$ 1,876	$ 1,891	$ 5,592	$ 5,693
Capital expenditures:				
CDMO	$ 1,036	$ 933	$ 3,932	$ 2,014
Acute Care	365	—	654	—
Total	$ 1,401	$ 933	$ 4,586	$ 2,014

(amounts in thousands, except share and per share data)

	September 30, 2017	December 31, 2016
Total assets:		
CDMO	$ 88,524	$ 77,828
Acute Care	80,486	105,169
Total	$ 169,010	$ 182,997

(18) Related Party Transactions

The Company's President and Chief Executive Officer, or CEO, owns a majority of the stock of Malvern Consulting Group, or MCG, a pharmaceutical incubator and consulting firm. The CEO's husband, who is also a shareholder of the Company, is a consultant and a shareholder of MCG. In addition, the CEO's son is the President and a shareholder of MCG. During 2016, certain immediate family members of the CEO were employees of MCG, including the CEO's brother and sister-in-law. Since formation, the Company entered into various transactions with MCG, as detailed below. However, since becoming a public company, the Company sought to decrease its involvement with MCG, and, as of December 31, 2016, the Company no longer has any involvement or transactions with MCG.

During 2016, certain of the Company's executive officers, its CEO, its Senior Vice President, Development and its Senior Vice President, Regulatory Affairs and Quality Assurance, who is also the CEO's sister, provided minimal consulting services from time to time to MCG. Until December 31, 2016, the Company was a party to a Master Consulting Services Agreement with MCG. Pursuant to the agreement, MCG provided the Company with certain consulting services for a fee based upon hourly rates previously approved by the Company's Board of Directors. In consideration for such services, the Company recorded $88 and $278 for the three and nine months ended September 30, 2016, respectively. A portion of these amounts were used during 2016 to pay a portion of the respective salaries of MCG employees that, as described above, included immediate family members of the Company's CEO.

Until December 31, 2016, the Company was party to an Office Services Agreement with MCG for the lease of an aggregate of 8,458 square feet of office and lab space located at its Malvern, Pennsylvania facility and the provision of IT services and general office support. Pursuant to the Office Services Agreement, the Company paid MCG $155 in the nine months ended September 30, 2016. The Company terminated this agreement on December 31, 2016 and is now a party to a six-year lease directly with the landlord of the Company's Malvern, Pennsylvania facility (see Note 13).

As of December 31, 2016, the Company terminated the Master Consulting Agreement and the Office Services Agreement and MCG no longer provides any services or has any contracts with the Company.

The Company's Senior Vice President, Regulatory and Quality, who is the CEO's sister, has held that position since 2014. Effective January 1, 2017, the CEO's sister-in-law and brother, respectively, terminated their employment with MCG and were hired as the Company's Director of Human Resources and the Company's Vice President, Manufacturing. The Company's board of directors approved these hires consistent with the Company's related person transaction policy.

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with the interim unaudited financial statements contained in Part I, Item 1 of this quarterly report, and the audited financial statements and notes thereto for the year ended December 31, 2016 and the related Management's Discussion and Analysis of Financial Condition and Results of Operations, both of which are contained in our annual report on Form 10-K filed with the SEC on March 9, 2017. As used in this report, unless the context suggests otherwise, "we," "us," "our," "the Company" or "Recro" refer to Recro Pharma, Inc. and its consolidated subsidiaries.

Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements. We may, in some cases, use terms such as "may," "will," "should," "expect," "plan," "anticipate," "could," "intend," "target," "project," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements.

These forward-looking statements in this quarterly report on Form 10-Q include, among other things, statements about:

- our estimates regarding expenses, future revenue, capital requirements and timing and availability of and the need for additional financing;
- our ability to obtain and maintain regulatory approval of injectable meloxicam and our product candidates, and the labeling under any approval that we may obtain;
- the results, timing and outcome of our clinical trials of injectable meloxicam or our other product candidates, and any future clinical and preclinical studies;
- our ability to successfully commercialize injectable meloxicam or our other product candidates, upon regulatory approval;
- our ability to comply with the legal and regulatory frameworks applicable to our business and other regulatory developments in the United States and foreign countries;
- our ability to raise future financing and attain profitability for continued development of our business and our product candidates and to meet required debt payments, and any milestone payments owing to Alkermes, or our other licensing and collaboration partners;
- our ability to operate under increased leverage and associated lending covenants;
- the performance of third-parties upon which we depend, including third-party contract research organizations, or CRO's, and third-party suppliers and manufacturers;
- our ability to obtain patent protection and defend our intellectual property rights against third parties;
- our ability to maintain our relationships and contracts with our key commercial partners;
- our ability to recruit or retain key scientific, technical, commercial, and management personnel or to retain our executive officers;
- our ability to comply with stringent U.S. and foreign government regulation in the manufacture of pharmaceutical products, including Good Manufacturing Practice, or cGMP, compliance and U.S. Drug Enforcement Agency, or DEA, compliance; and
- the effects of changes in our effective tax rate due to changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities and changes in the tax laws.

Any forward-looking statements that we make in this Quarterly Report speak only as of the date of such statement, and we undertake no obligation to update such statements to reflect events or circumstances after the date of this Quarterly Report or to reflect the occurrence of unanticipated events. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless expressed as such, and should only be viewed as historical data.

You should also read carefully the factors described in the "Risk Factors" included in Part II, Item 1A of this Quarterly Report and Part I, Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 filed with the SEC on March 9, 2017 to better understand significant risks and uncertainties inherent in our business and underlying any forward-looking statements. As a result of these factors, actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements in this report and you should not place undue reliance on any forward-looking statements.

Overview

We are a specialty pharmaceutical company that operates through two business divisions: an Acute Care division and a revenue-generating CDMO division. Each of these divisions are deemed to be reportable segments for financial reporting purposes.

Our Acute Care segment is primarily focused on developing innovative products for commercialization in hospital and other acute care settings. Our lead product candidate, IV meloxicam, has successfully completed two pivotal Phase III clinical trials, a large Phase III safety trial and other safety studies for the management of moderate to severe pain. Overall, we enrolled a total of approximately 1,100 patients in our Phase III program. At the end of July 2017, we submitted an NDA to the FDA for IV meloxicam 30mg for the management of moderate to severe pain. The FDA has accepted the NDA for review and set a PDUFA date of May 26, 2018. Our Acute Care segment has no revenue and our costs consist primarily of expenses incurred in conducting our clinical trials and preclinical studies, manufacturing scale-up, regulatory activities, initial pre-commercialization of meloxicam and personnel costs.

Our CDMO segment leverages our formulation expertise to develop and manufacture pharmaceutical products using our proprietary delivery technologies for commercial partners who commercialize or plan to commercialize these products. These collaborations result in revenue streams including royalties, profit sharing, research and development and manufacturing, which support continued operations for our CDMO segment and have contributed funds to be used in our research and development and pre-commercialization activities in our Acute Care segment. We operate a 97,000 square-foot, DEA-licensed manufacturing facility in Gainesville, Georgia, and we currently develop and/or manufacture the following key products with our commercial partners: Ritalin LA®, Focalin XR®, Verelan PM®, generic Verapamil sustained release and Zohydro ER®, as well as development stage products. Our CDMO segment's revenue streams are derived from manufacturing, royalty and profit sharing revenues, as well as our research and development of services performed for commercial partners.

We have incurred losses and generated negative cash flows from operations since inception, and expect to continue to incur significant and increasing operating losses for the foreseeable future. Substantially all of our operating losses resulted from costs incurred in connection with our development programs, including our non-clinical and formulation development activities, manufacturing, clinical trials and pre-commercialization activities. We have used revenue generated by our CDMO segment primarily to fund operations at our Gainesville, Georgia manufacturing facility, to make payments under our credit facility and to partially fund our development and pre-commercialization activities of our Acute Care segment. We believe our CDMO's revenue will continue to contribute cash for general corporate purposes that may, to some extent, reduce the amount of external capital needed to fund development operations. We expect to incur increasing expenses over the next several years to develop and commercialize injectable meloxicam, including continued pre-commercial activities for IV meloxicam. Based upon the availability of additional financial resources, we may also develop and commercialize our other product candidates in our pipeline, as well as other products we may in-license.

On April 10, 2015, we completed the Gainesville Transaction. The Gainesville Transaction transformed our business through the addition of a revenue-generating business and the increase in our workforce as a result of the addition of the employees at our Gainesville, Georgia manufacturing facility. The consideration paid consisted of $50.0 million cash, a $4.0 million working capital adjustment and a seven-year warrant to purchase 350,000 shares of our common stock at an exercise price of $19.46 per share. In addition, we may be required to pay up to an additional $125.0 million in milestone payments including $45 million upon regulatory approval of IV meloxicam as well as net sales milestones and a royalty percentage of future product net sales related to IV meloxicam.

The up-front payment was funded with $50.0 million in borrowings under a credit agreement that we entered into with OrbiMed and cash on hand. The interest rate under the credit agreement is equal to LIBOR plus 14.0%, with a 1.0% LIBOR floor. Pursuant to the credit agreement, we issued OrbiMed a warrant to purchase an aggregate of 294,928 shares of our common stock at an exercise price of $3.28 per share, subject to certain adjustments.

Financial Overview

Revenues

During the three and nine months ended September 30, 2017 and 2016 we recognized revenues in four categories: manufacturing revenue, royalty, profit sharing and research and development revenue. All revenue is generated from our CDMO segment.

Manufacturing revenue—We recognize manufacturing revenue from the sale of products we manufacture for our commercial partners. Manufacturing revenues are recognized when persuasive evidence of an arrangement exists, shipment has occurred and title to the product and associated risk of loss has passed to the customer, the sales price is fixed or determinable and collectability is reasonably assured.

***Royalty* revenue**—We recognize royalty revenue related to the sale of products by our commercial partners that incorporate our technologies. Royalties are earned under the terms of a license, development and/or supply agreement in the period the products are sold by a commercial partner and collectability is reasonably assured.

Profit sharing revenue—We recognize revenue from profit sharing related to the sale of certain of our manufactured products by our commercial partners. Profit sharing revenue is earned under the terms of a license, development and/or supply agreement in the period the products are sold and expenses are incurred by our commercial partner and collectability is reasonably assured.

Research and development revenue—Research and development revenue consists of funding that compensates us for formulation, and preparation of pre-clinical and clinical testing drug product materials prepared by our CDMO segment under research and development arrangements with commercial partners. We generally bill our commercial partners under research and development arrangements using a full-time equivalent or hourly rate, plus direct external costs, if any. In agreements which specify milestones, we recognize revenue from non-refundable milestone payments when the earnings process is complete and the payment is reasonably assured. Non-refundable milestone payments related to arrangements under which we have continuing performance obligations would be deferred and recognized over the period of performance.

Research and Development Expenses

Research and development expenses currently consist primarily of costs incurred in connection with the development of injectable meloxicam and other pipeline activities. These expenses consist primarily of:

- expenses incurred under agreements with contract research organizations, investigative sites and consultants that conduct our clinical trials and a substantial portion of our preclinical studies;
- the cost of acquiring and manufacturing clinical trial materials and manufacturing services;
- costs related to facilities, depreciation and other allocated expenses;
- acquired in process research and development;
- costs associated with non-clinical and regulatory activities;
- salaries and related costs for personnel in research and development and regulatory functions.
- costs associated with pre-commercialization activities for injectable meloxicam; and
- costs related to scale up and validation for injectable meloxicam.

The majority of our external research and development costs relate to clinical trials, manufacturing of drug supply for pre-commercial products, analysis and testing of product candidates and patent costs. Costs related to facilities, depreciation and support are not charged to specific programs.

The successful development of our product candidates is highly uncertain and subject to a number of risks, including, but not limited to:

- the duration of clinical trials, which varies substantially according to the type, complexity and novelty of the product candidate;
- the imposition by the FDA and comparable agencies in foreign countries of substantial requirements on the introduction of therapeutic pharmaceutical products, which may require lengthy and detailed laboratory and clinical testing procedures, sampling activities and other costly and time-consuming procedures;
- the possibility that data obtained from nonclinical and clinical activities at any step in the testing process may be adverse and lead to discontinuation or redirection of development activity or may be susceptible to varying interpretations, which could delay, limit or prevent regulatory approval;
- risk involved with development of manufacturing processes and successful completion of manufacturing batches for clinical development and other regulatory purposes;
- the costs, timing and outcome of regulatory review of a product candidate;
- the emergence of competing technologies and products and other adverse market developments, which could impede our commercial efforts; and
- the other risks disclosed in the section titled “Risk Factors” of our Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

Development timelines, probability of success and development costs vary widely. As a result of the uncertainties discussed above, we anticipate that we will make determinations as to which additional programs to pursue and how much funding to direct to each program on an ongoing basis in response to the scientific and clinical data of each product candidate, as well as ongoing assessments of such product candidate's commercial potential. Accordingly, we cannot currently estimate with any degree of certainty the amount of time or costs that we will be required to expend in the future on our product candidates to complete current or future clinical or pre-commercial stages prior to their regulatory approval, if such approval is ever granted. As a result of these uncertainties surrounding the timing and outcome of any approvals, we are currently unable to estimate precisely when, if ever, any of our other product candidates will generate revenues and cash flows.

We expect our research and development costs to primarily relate to injectable meloxicam for the foreseeable future as we advance this product candidate through the pre-commercialization scale-up, clinical and other pre-approval activities. We also expect to have expenses as we initiate clinical trials and related work for our other product candidates. We may elect to seek out collaborative relationships in order to provide us with a diversified revenue stream and to help facilitate the development and commercialization of our product candidate pipeline. We expect our research and development costs to continue to increase as we continue clinical and pre-commercialization manufacturing activities for IV meloxicam, and engage in pipeline development activities.

In addition, research and development expenses consist of costs incurred by our CDMO segment in connection with research and development services performed for our commercial partners, as well as other product development and regulatory activities. We expense research and development costs as incurred. Advanced payments for goods and services that will be used in future research and development activities are initially recorded as prepaid expenses and expensed as the activity is performed or when the goods have been received.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and related costs for personnel in executive, pre-commercial and finance functions. General and administrative expenses also include professional fees for legal, including patent-related expenses, consulting, auditing and tax services, and stock compensation expense.

We expect our general and administrative expenses to continue to increase as we build our Acute Care commercialization team and engage in pre-commercialization IV meloxicam marketing, sales, market access and medical affairs activities. In addition, we will continue to incur costs relating to our operations as a public company, including increased headcount and increased salary, consulting, legal, patent and compliance, accounting, insurance and investor relations costs.

Amortization of Intangible Assets

We recognize amortization expense related to the intangible asset for our contract manufacturing relationships on a straight-line basis over an estimated useful life of six years. The intangible asset related to injectable meloxicam represents IPR&D, which is considered an indefinite-lived intangible asset that is assessed for impairment annually or more frequently if impairment indicators exist.

Change in Fair Value of Contingent Consideration

In connection with the acquisition of injectable meloxicam in the Gainesville Transaction, we are required to pay up to an additional $125.0 million in milestone payments including $45 million upon regulatory approval of IV meloxicam as well as net sales milestones and a royalty percentage of future product net sales related to IV meloxicam of between 10% and 12% (subject to a 30% reduction when no longer covered by patent). The estimated fair value of the initial $54.6 million payment obligation was recorded as part of the purchase price for the Gainesville Transaction. Each reporting period, we revalue this estimated obligation with changes in fair value recognized as a non-cash operating expense or income.

Change in Fair Value of Warrants

We have classified as liabilities certain warrants outstanding which contain a contingent net cash settlement feature, or an anti-dilution provision. The fair value of these warrants are remeasured through settlement or expiration with changes in fair value recognized as a period charge within the Consolidated Statements of Operations and Comprehensive Loss.

Interest Expense

Interest expense for the three and nine months ended September 30, 2017 and 2016 was a result of interest expense incurred on our OrbiMed senior secured term loan and the amortization of the related financing costs.

Results of Operations

Comparison of the Three Months Ended September 30, 2017 and 2016

	Three Months Ended September 30,	
	2017	2016
	(amounts in thousands)	
Revenue	$ 17,114	$ 16,951
Operating expenses:		
Cost of sales (excluding amortization of intangible assets)	6,882	5,745
Research and development	9,296	7,046
General and administrative	6,635	3,841
Amortization of intangible assets	646	646
Change in warrant valuation	808	402
Change in contingent consideration valuation	3,550	3,192
Total operating expenses	27,817	20,872
Operating loss	(10,703)	(3,921)
Other income (expense):		
Interest expense, net	(1,173)	(1,440)
Loss before income taxes	(11,876)	(5,361)
Income tax benefit (expense)	2,821	(18)
Net loss	$ (9,055)	$ (5,379)

Revenue and costs of sales. Our revenues were $17.1 million and $17.0 million and cost of sales were $6.9 million and $5.7 million for the three months ended September 30, 2017 and 2016, respectively. Excluding the $2.3 million, one-time, contractually based manufacturing revenue amount from one of our commercial partners in the three months ended September 30, 2016, the $2.4 million increase in revenue versus prior year was primarily due to higher manufacturing revenues. Cost of sales increased $1.2 million, or 20%, primarily due to increases in manufacturing revenue compared to prior year.

Research and Development. Our research and development expenses were $9.3 million and $7.0 million for the three months ended September 30, 2017 and 2016, respectively. Research and development expenses increased as a result of an increase of $2.0 million for the NDA filing fee, an increase of $1.4 million in pre-commercialization manufacturing and other development costs for IV meloxicam, an increase of $1.5 million in salaries and benefits expense due to increased Acute Care headcount, and an increase of $0.4 million in development costs for other pipeline products. These increases in research and development costs were offset by lower IV meloxicam clinical trial expenses of $3.0 million.

General and Administrative. Our general and administrative expenses were $6.6 million and $3.8 million for the three months ended September 30, 2017 and 2016, respectively. The increase of $2.8 million was primarily due to increased headcount in our Acute Care division, and pre-commercialization and medical affairs expenses.

Amortization of Intangible Assets. Amortization expense was $0.6 million for each of the quarters ended September 30, 2017 and 2016, which was exclusively related to the amortization of our royalties and contract manufacturing relationships intangible asset over its estimated useful life.

Interest Expense, net. Interest expense, net was $1.2 million and $1.4 million during the three months ended September 30, 2017 and 2016, respectively. The decrease in interest expense, net, was due to a lower principal balance on our OrbiMed senior secured term loan and amortization of the related financing costs.

Income Tax Benefit. Income tax benefit was $2.8 million for the three months ended September 30, 2017 due to a loss in our U.S. operations and the income tax expense was $0.02 million for the three months ended September 30, 2016 due to income tax related to our U.S. operations. We believe that it is more likely than not that the deferred income tax assets associated with our foreign operations will not be realized, and as such, there is a full valuation allowance against our foreign deferred tax assets.

Operating Income (Loss) per Segment.

CDMO Segment-

Our CDMO's gross margin percentage was 60% and 66% in the three months ended September 30, 2017 and 2016, respectively. Excluding the $2.3 million, one-time, contractually based manufacturing revenue amount from one of our commercial partners in the three months ended September 30, 2016, the $2.4 million increase in revenue versus prior year was primarily due to higher manufacturing revenues. Cost of sales increased $1.2 million, or 20%, primarily due to increases in manufacturing revenue compared to prior year.

CDMO's operating expenses (excluding cost of sales) decreased by $0.1 million, from $1.9 million in the three months ended September 30, 2016 to $1.8 million in the three months ended September 30, 2017. Research and development expenses decreased by $0.1 million and general and administration expenses decreased by $0.1 million. All of the above contributed to CDMO's operating income of $7.8 million for the three months ended September 30, 2017, which included non-cash charges of $1.9 million for depreciation and amortization and $0.3 million for stock-based compensation.

Acute Care Segment-

Acute Care's operating expenses increased $5.2 million from $8.9 million in the three months ended September 30, 2016 to $14.1 million in the three months ended September 30, 2017. Research and development expenses increased $2.3 million as a result of increased IV meloxicam pre-commercialization manufacturing costs, NDA filing fees and increased headcount, which was partially offset by a decrease in our IV meloxicam clinical trial expenses. General and administrative costs increased by $2.8 million as a result of increased headcount and increased pre-commercialization marketing expenses. Non-cash charges related to the warrant valuation increased $0.4 million and contingent consideration increased by $0.4 million. All of the above contributed to Acute Care's operating loss of $18.5 million for the three months ended September 30, 2017, which also included non-cash charges of $1.7 million for stock-based compensation, depreciation and amortization.

Comparison of the Nine Months Ended September 30, 2017 and 2016

	Nine Months Ended September 30,	
	2017	2016
	(amounts in thousands)	
Revenue	$ 52,790	$ 51,973
Operating expenses:		
Cost of sales (excluding amortization of intangible assets)	27,829	25,563
Research and development	24,132	23,175
General and administrative	16,990	9,263
Amortization of intangible assets	1,937	1,937
Change in warrant valuation	15	47
Change in contingent consideration valuation	9,323	7,705
Total operating expenses	80,226	67,690
Operating loss	(27,436)	(15,717)
Other income (expense):		
Interest expense, net	(3,341)	(4,252)
Loss before income taxes	(30,777)	(19,969)
Income tax benefit	4,780	166
Net loss	$ (25,997)	$ (19,803)

Revenue and costs of sales. Our revenues were $52.8 million and $52.0 million and cost of sales were $27.8 million and $25.6 million for the nine months ended September 30, 2017 and 2016, respectively. Excluding the $2.3 million, one-time, contractually based manufacturing revenue amount from one of our commercial partners in the nine months ended September 30, 2016, the $3.1 million increase in revenue versus prior year was primarily due to increased profit share revenue as a result of increased sales volumes and pricing by one of our commercial partners as well as increased manufacturing revenue. These increases were partially offset by decreased royalty revenue due to a change in the mix of generic and brand sales by one of our commercial partners. Cost of sales increased $2.2 million, or 9%, primarily due to increases in manufacturing revenue compared to prior year and changes in the product mix.

Research and Development. Our research and development expenses were $24.1 million and $23.2 million for the nine months ended September 30, 2017 and 2016, respectively. Research and development expenses increased as a result of an increase of $2.0

million for the NDA filing fee, an increase of $3.6 million in pre-commercialization manufacturing and other development costs for IV meloxicam, an increase of $2.3 million in salaries and benefits expense due to increased Acute Care headcount, an increase of $0.8 million in IPR&D costs for the acquisition of the NMB Related Compounds and an increase of $1.5 million in development costs for other pipeline products. These increases in research and development costs were offset by lower IV meloxicam clinical trial expenses of $9.3 million.

General and Administrative. Our general and administrative expenses were $17.0 million and $9.3 million for the nine months ended September 30, 2017 and 2016, respectively. The increase of $7.7 million was primarily due to increased headcount in our Acute Care division and pre-commercialization and medical affairs expenses.

Amortization of Intangible Assets. Amortization expense was $1.9 million for the nine months ended September 30, 2017 and 2016 which was exclusively related to the amortization of our royalties and contract manufacturing relationships intangible asset over its estimated useful life.

Interest Expense, net. Interest expense, net was $3.3 million and $4.3 million during the nine months ended September 30, 2017 and 2016, respectively. The decrease in interest expense, net, was due to a lower principal balance on our OrbiMed senior secured term loan and amortization of the related financing costs.

Income Tax Benefit. Income tax benefit was $4.8 million and $0.2 million for the nine months ended September 30, 2017 and 2016, respectively, due to an income tax benefit related to a loss in our U.S. operations. We believe that it is more likely than not that the deferred income tax assets associated with our foreign operations will not be realized, and as such, there is a full valuation allowance against our foreign deferred tax assets.

Operating Income (Loss) per Segment.

CDMO Segment-

Our CDMO's gross margin percentage was 47% and 51% in the nine months ended September 30, 2017 and 2016, respectively. Excluding the $2.3 million, one-time, contractually based manufacturing revenue amount from one of our commercial partners in the nine months ended September 30, 2016, the $3.1 million increase in revenue versus prior year was primarily due to increased profit share revenue as a result of increased sales volumes and pricing by one of our commercial partners as well as increased manufacturing revenue. These increases were partially offset by decreased royalty revenue due to a change in the mix of generic and brand sales by one of our commercial partners. Cost of sales increased $2.2 million, or 9%, primarily due to increases in manufacturing revenue compared to prior year and changes in the product mix.

CDMO's operating expenses (excluding cost of sales) increased by $0.4 million, from $4.6 million in the nine months ended September 30, 2016 to $5.0 million in the nine months ended September 30, 2017. Research and development expenses increased by $0.5 million due to expanded investment in our future capabilities and general and administration decreased by $0.1 million. All of the above contributed to CDMO's operating income of $18.0 million for the nine months ended September 30, 2017, which included non-cash charges of $5.6 million for depreciation and amortization and $0.8 million for stock-based compensation.

Acute Care Segment-

Acute Care's operating expenses increased $8.2 million from $27.9 million in the nine months ended September 30, 2016 to $36.1 million in the nine months ended September 30, 2017. Research and development expenses increased $0.5 million as a result of increased IV meloxicam pre-commercialization manufacturing costs, NDA filing fees and increased headcount, which was partially offset by a decrease in our IV meloxicam clinical trial expenses. General and administrative costs increased by $7.8 million as a result of increased headcount and increased pre-commercialization marketing expenses. The non-cash charge for contingent consideration increased by $1.6 million. All of the above contributed to Acute Care's operating loss of $45.5 million for the nine months ended September 30, 2017, which also included non-cash charges of $3.5 million for stock-based compensation, depreciation and amortization.

Liquidity and Capital Resources

As of September 30, 2017, we had $41.3 million in cash and cash equivalents and short-term investments.

Since inception through September 30, 2017, we have financed our product development, operations and capital expenditures primarily from sales of equity and debt securities, including sales of our common stock of $116.4 million, which includes $57.6 million raised in 2016. Revenues from our CDMO segment are used primarily to fund operations at our Gainesville, Georgia

manufacturing facility, to make payments under our credit facility and to partially fund the development and pre-commercialization activities of our Acute Care segment. During the nine months ended September 30, 2017, our capital expenditures were $4.6 million.

We will need to raise substantial additional funds in order to fund the payments which may become due, including milestone payments owed to Alkermes or other licensing partners, to continue our clinical trials of our approved or development state product candidates, to commercialize any approved product candidates or technologies and to enhance our sales and marketing efforts for additional products we may acquire. Insufficient funds may cause us to delay, reduce the scope of or eliminate one or more of our development, commercialization or expansion activities. Our future capital needs and the adequacy of our available funds will depend on many factors, including the cost of clinical studies and other actions needed to obtain regulatory approval of our products in development, and the costs of commercialization activities, as well as the continued profitability of our CDMO segment. If additional funds are required, we may raise such funds through debt refinancing, bank or other loans, through strategic research and development, licensing, including out-licensing activities, and/or marketing arrangements or through public or private sales of equity or debt securities from time to time. Financing may not be available on acceptable terms, or at all, and our failure to raise capital when needed could materially adversely impact our growth plans and our financial condition or results of operations. Additional equity financing, if available, may be dilutive to the holders of our common stock and may involve significant cash payment obligations and covenants that restrict our ability to operate our business.

On March 7, 2015, in connection with the Gainesville Transaction, we, through a wholly owned subsidiary, entered into a credit agreement with OrbiMed. Pursuant to the credit agreement, OrbiMed provided us with a term loan in the original principal amount of $50.0 million on April 10, 2015, which amount was used to fund the Gainesville Transaction. The unpaid principal amount under the credit agreement is due and payable on the five-year anniversary of the loan provided thereunder by OrbiMed. The credit agreement also provides for certain mandatory prepayment events, including a quarterly excess cash flow prepayment requirement at OrbiMed's request. We may make voluntary prepayments in whole or in part, subject to: (i) on or prior to the 36-month anniversary of the closing of the credit agreement, payment of a buy-out premium amount equal to (A) for full prepayments, $75 million less all previously prepaid principal amount and all previously paid interest or (B) for partial prepayments of the unpaid principal amount, 0.5 times the partial prepayment amount less interest payments previously paid in respect to the partial prepayment amount and; and (ii) after the 36-month anniversary of the closing of the credit agreement, payment of an exit fee amount equal to 10% of the amount of any prepayments. As defined by the agreement, based upon our CDMO segment financial results, OrbiMed has the option to require us to prepay a portion of the Loan balance based upon an Excess Cash Flow calculation. No payments under this option shall be subject to the buy-out premium. The credit agreement carries interest at three-month LIBOR plus 14.0% with 1.0% floor. This obligation is secured by substantially all of our assets. As of September 30, 2017, we have paid $22.7 million of the outstanding principal on our senior secured term loan from free cash flow.

Sources and Uses of Cash

Cash used in operations was $18.0 million and $4.2 million for the nine months ended September 30, 2017 and 2016, respectively, which represents our operating losses less our stock-based compensation, depreciation, non-cash interest expense, changes in fair value of warrants and contingent consideration and amortization of intangibles, as well as changes in operating assets and liabilities.

Cash used in investing activities was $34.6 million and $2.0 million for the nine months ended September 30, 2017 and 2016, respectively, and reflected cash used for the purchase of short-term investments offset by maturities/redemption of investments in 2017 and property and equipment in 2017 and 2016. Our short-term investments are classified as available for sales securities maturities of less than one year.

There was $0.01 million cash provided by financing activities in nine months ended September 30, 2017 from proceeds from exercise of options offset by the repurchase of shares traded for taxes. Cash provided by financing activities was $11.2 million for the nine months ended September 30, 2016, primarily as a result of the sale of common stock raising net proceeds of $13.4 million, $4.2 million in proceeds from the sale of shares of common stock through our common stock purchase agreement with Aspire Capital, offset by excess cash flow payments of $6.3 million made related to the OrbiMed credit agreement.

Our future use of operating cash and capital requirements will depend on many forward-looking factors, including the following:

- the timing and outcome of the FDA's review of an NDA for IV meloxicam;
- the timing and outcome of our Phase IIIB clinical studies for IV meloxicam;
- the extent to which the FDA may require us to perform additional preclinical studies, clinical trials or pre-commercial manufacturing of injectable meloxicam or our other product candidates;

- the timing to fund the Gainesville Transaction regulatory milestone payments and other contingent consideration;
- the costs of our commercialization activities, if our product candidates are approved by the FDA;
- the cost of manufacturing scale-up, acquiring drug pruoduct and other capital equipment for our product candidates;
- the scope, progress, results and costs of development for our other product candidates;
- the cost, timing and outcome of regulatory review of our other product candidates;
- the extent to which we in-license, acquire or invest in products, businesses and technologies;
- the timing and extent of our manufacturing and capital expenditures related to our CDMO division;
- our ability to maintain our relationships and contracts with our commercial partners;
- our ability to comply with stringent U.S. & foreign government regulation in the manufacture of pharmaceutical products, including cGMP and U.S. DEA requirements;
- the extent to which we choose to establish collaboration, co-promotion, distribution or other similar agreements for product candidates;
- the costs of preparing, submitting and prosecuting patent applications and maintaining, enforcing and defending intellectual property claims; and
- the effect of any changes in our effective tax rate due to changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities and changes in tax laws.

We might use existing cash and cash equivalents on hand, additional debt, equity financing or out-licensing revenue or a combination of the four to fund our operations or product acquisitions. If we increase our debt levels, we might be restricted in our ability to raise additional capital and might be subject to financial and restrictive covenants. Our shareholders may experience dilution as a result of the issuance of additional equity securities. This dilution may be significant depending upon the amount of equity securities that we issue and the prices at which we issue any securities.

Contractual Commitments

The following is a discussion of our contractual commitments as of September 30, 2017.

Licenses

We have in-licensed product candidates that generally trigger or require payments to the partner from whom we have licensed the product. Such payments frequently take the form of:

- an up-front payment, the size of which varies depending on the phase of the product candidate and how many other companies would like to obtain the product, which is paid very soon after signing a license agreement;
- royalties as a percentage of net sales of the product; and
- milestone payments, which are paid when certain parts of the overall development program and regulatory milestones (such as filing an IND or an NDA) are successfully accomplished, as well meeting certain sales thresholds.

We are party to exclusive licenses with Orion for the development and commercialization of Dex and Fado, under which we may be required to make certain milestone and royalty payments to Orion. We also license the NMB Related Compounds from Cornell pursuant to a license agreement to which we are obligated to make annual license maintenance fee payments, milestone payments and patent cost payments and to pay royalties on net sales of the NMB Related Compounds. See Note 5 and Note 13(a) to the Consolidated Financials Statements included in the Form 10-Q. We are unable to reliably estimate the timing of these payments because they are dependent on the type and complexity of the clinical studies and intended uses of the products, which have not been established. In accordance with U.S. GAAP, these obligations are not recorded on our Consolidated Balance Sheets.

We may also out-license products for which we hold the rights to other companies for commercialization in other territories or, at times, for other uses and would seek appropriate compensation.

Contingent Consideration

Pursuant to the purchase and sale agreement governing the Gainesville Transaction, we agreed to pay to Alkermes up to an additional $125.0 million in milestone payments including $45 million upon regulatory approval of IV meloxicam as well as net sales milestones and a royalty percentage of future product net sales related to IV meloxicam between 10% and 12% (subject to a 30% reduction when no longer covered by patent).

Leases

On January 1, 2017, we entered into a six-year lease of our Malvern, Pennsylvania facility that expires on December 31, 2022. In February 2017, we also entered into a three-year lease for office space in Dublin, Ireland that expires in April 2020. We are also party to operating leases for office equipment and storage.

Debt

Pursuant to our credit agreement with OrbiMed, OrbiMed provided us with a term loan in the original principal amount of $50.0 million on April 10, 2015. The unpaid principal amount under the credit agreement is due and payable in April 2020. The credit agreement also provides for certain mandatory prepayment events, including a quarterly excess cash flow prepayment requirement at OrbiMed's request. As defined by the agreement, based upon our CDMO segment financial results, OrbiMed has the option to require the Company to prepay a portion of the loan balance based upon an Excess Cash Flow calculation. As of September 30, 2017, we have paid $22.7 million of the outstanding principal on our senior secured term loan from free cash flow.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K.

Critical Accounting Policies and Estimates

Our critical accounting policies and estimates are disclosed in the Management's Discussion and Analysis of Financial Condition and Results of Operations section of our Annual Report on Form 10-K December 31, 2016 filed with the SEC on March 9, 2017. There have not been any significant changes to such critical accounting policies since.

Item 3.Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks in the ordinary course of our business. These market risks are principally limited to interest rate fluctuations. At September 30, 2017, we had approximately $29.6 million invested in money market instruments and government and agency bonds. We believe our policy of investing in highly-rated securities, whose liquidities are, at September 30, 2017, all less than one year, minimizes such risks. Due to the short-term duration of our investment portfolio and the low-risk profile of our investments, an immediate 10.0% change in interest rates would not have a material effect on the fair market value of our portfolio. Accordingly, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on our investment portfolio. We do not enter into investments for trading or speculative purposes. Our OrbiMed senior secured term loan interest expense is based on the current committed rate of LIBOR plus 14% with a 1.0% LIBOR floor. A fluctuation in LIBOR of 0.25% would result in a charge of $0.1 million of interest expense.

We have license agreements with Orion for Dex and Fado which require the payment of milestones upon the achievement of certain regulatory and commercialization events and royalties on product sales, which are required to be made in Euros. As of September 30, 2017, no milestones or royalties were due under these agreements, and we do not anticipate incurring milestone or royalty costs under these agreements until we advance our development of Dex or Fado. We do not believe foreign currency exchange rate risk is a material risk at this time; however, these agreements could, in the future, give rise to foreign currency transaction gains or losses. As a result, our results of operations and financial position could be exposed to changing currency exchange rates. In the future, we may periodically use forward contracts to hedge certain transactions or to neutralize exposures.

Item 4.Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act) as of September 30, 2017. We maintain disclosure controls and procedures

that are designed to provide reasonable assurance that information required to be disclosed in our reports filed or submitted under the Exchange Act 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 our management, including our principal executive officer and principal financial officer, as appropriate, to allow for timely decisions regarding required disclosure.

A control system, no matter how well conceived and operated, can provide only reasonable, and not absolute, assurance that the objectives of the control system will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the company have been detected. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected. However, our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives. Based on the evaluation of our disclosure controls and procedures as of September 30, 2017, our principal executive officer and principal financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings.

As part of the Gainesville Transaction, we acquired the rights to Zohydro ER®, which we license to our commercial partner, Pernix Therapeutics Holdings, Inc., or Pernix, in the United States, and which is subject to ongoing intellectual property litigation and proceedings.

Zohydro ER® has been subject to six paragraph IV certifications, two of which were filed in 2014 by Actavis plc, or Actavis, and Alvogen Pine Brook, Inc., or Alvogen, regarding the filing of Abbreviated NDAs, or ANDAs, with the FDA for a generic version of Zohydro ER®, one of which was filed in April 2015 by Actavis regarding the filing of a supplemental ANDA, or sANDA, and another three of which were filed in November 2015 and October 2016 by Actavis and in December 2015 by Alvogen regarding one of our recently issued patents relating to a formulation of Zohydro ER®. These certification notices allege that the three U.S. patents listed in the FDA's Orange Book for Zohydro ER®, with an expiration date in November 2019 or September 2034, will not be infringed by Actavis' or Alvogen's proposed products, are invalid and/or are unenforceable. In 2014, Daravita Limited (a subsidiary of Alkermes and our predecessor in interest) filed suit against each of Actavis and Alvogen in the U.S. District Court for the District of Delaware based on the ANDAs, and, in 2015, we filed suit against Actavis in the U.S. District Court for the District of Delaware based on the sANDA. In September 2016, we entered into a settlement agreement with Alvogen pursuant to which the case against Alvogen was dismissed. In February 2017, the District Court in the Actavis case ruled in our favor and enjoined Actavis from selling the proposed generic version of Zohydro ER®. Actavis has appealed this decision to the U.S. Court of Appeals for the Federal Circuit. In October 2017, we filed suit against Actavis in the U.S. District Court for the District of Delaware based upon another recently issued patent relating to a formulation of Zohydro ER®. Under our license agreement with Pernix, we have the right to control the enforcement of our patents and related proceedings involving Zohydro ER® and any prospective generic entrant, and Pernix has the obligation to reimburse us for all reasonable costs of such actions.

In addition, in April 2015, the U.S. Patent and Trademark Office declared an interference between one of our patent applications relating to a dosage form of Zohydro ER® and two Purdue Pharma, LP, or Purdue, applications. In April 2016, the USPTO found our claims and the Purdue claims involved in the interference to be invalid. In June 2016, Purdue appealed this decision to the U.S. Court of Appeals for the Federal Circuit and in June 2017, the U.S. Court of Appeals for the Federal Circuit affirmed the decision of the USPTO in our favor and dismissed Purdue's appeal.

Item 1A. Risk Factors.

There have been no material changes from our risk factors as previously reported in our Annual Report on Form 10-K for the year ended December 31, 2016.

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

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

(a) The following exhibits are filed herewithin or incorporated by reference herein:

EXHIBIT INDEX

Exhibit No.	Description	Method of Filing
10.1 †	Master Manufacturing Services Agreement, dated July 14, 2017, by and between Patheon UK Limited and Recro Ireland Limited	Incorporated herein by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on August 11, 2017 (File No. 001-36329).
10.2 †	Product Agreement, dated July 14, 2017, by and between Patheon UK Limited and Recro Ireland Limited	Incorporated herein by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed on August 11, 2017 (File No. 001-36329).
10.3	Employment Agreement, dated August 21, 2017, between Recro Pharma, Inc. and Jyrki Mattila, MD, PhD, MBA	Filed herewith.
31.1	Rule 13a-14(a)/15d-14(a) certification of Principal Executive Officer.	Filed herewith.
31.2	Rule 13a-14(a)/15d-14(a) certification of Principal Financial Officer.	Filed herewith.
31.3	Rule 13a-14(a)/15d-14(a) certification of Principal Accounting Officer.	Filed herewith.
32.1	Section 1350 certification, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	Filed herewith.
101 INS	XBRL Instance Document	Filed herewith.
101 SCH	XBRL Taxonomy Extension Schema	Filed herewith.
101 CAL	XBRL Taxonomy Extension Calculation Linkbase	Filed herewith.
101 DEF	XBRL Taxonomy Extension Definition Linkbase	Filed herewith.
101 LAB	XBRL Taxonomy Extension Label Linkbase	Filed herewith.
101 PRE	XBRL Taxonomy Extension Presentation Linkbase Document	Filed herewith.

† Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment pursuant to Rule 406 under the Securities Act of 1933.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

RECRO PHARMA, INC.

Date: November 9, 2017

By: /s/ Gerri A. Henwood
Gerri A. Henwood
President and Chief Executive Officer
(Principal Executive Officer)

Date: November 9, 2017

By: /s/ Michael Celano
Michael Celano
Chief Financial Officer
(Principal Financial Officer)

Date: November 9, 2017

By: /s/ Ryan D. Lake
Ryan D. Lake
Chief Accounting Officer
(Principal Accounting Officer)

Exhibit 10.3

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT (the "Agreement") is made and entered into as of the 21st day of August 2017, by and between Recro Pharma, Inc., a Pennsylvania corporation (the "Company"), and **Jyrki Mattila, MD, PhD, MBA**, an individual (the "Executive").

BACKGROUND

WHEREAS, the Company desires to employ the Executive, and the Executive desires to accept such employment, subject to the terms and further conditions set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound hereby, agree as follows:

1. Employment and Duties. From and after August 21, 2017 (the "Effective Date"), the Company shall employ the Executive as Executive Vice President, Business Development. In such capacity, the Executive shall perform all such duties as are assigned to him consistent with his titled position by the Company's Chief Executive Officer and/or Board of Directors of the Company (the "Board"), and shall use his reasonable best efforts to promote the interests of the Company. Nothing contained herein shall preclude the Executive from managing personal investments, participating in charitable, community, educational and professional activities, or, with the prior written consent of the Company (which shall not be unreasonably withheld), serving on the board of directors (or comparable governing body), including any board committees, of for-profit businesses that do not compete with the Company, provided that such activities do not materially interfere with the performance of his duties for the Company.

2. Term. The term of the Executive's employment hereunder shall commence as of the Effective Date and shall continue for a period of one (1) year. From and after the initial term, this Agreement shall automatically renew for additional one (1) year periods, unless and until either party gives the other no less than thirty (30) days' prior written notice of his/its intent not to renew.

3. Compensation. From and after the Effective Date, the Company shall pay the Executive in accordance with its normal bi-weekly payroll practices an annual salary at the initial rate of Three Hundred and Sixty Thousand ($360,000) per year (the "Base Salary"). The Executive's Base Salary shall be reviewed not less often than annually and may be increased from time to time in the sole discretion of the Company. The Base Salary, as in effect from time to time, may not be decreased without the prior written consent of the Executive, except as part of an across the board decrease in which the percentage decrease in the Executive's base salary is not greater than the smallest percentage decrease of any other senior executive officer.

4. Other Benefits.

(a) Bonuses. The Executive will qualify to participate in the Company's incentive bonus program. The Executive's target bonus amount (the "Target Bonus"), tied to set performance goals and measures, is 35% of the Executive's Base Salary. In addition, Executive shall be eligible to receive an additional bonus payout of 5% of Executive's Base Salary if Executive completes a

material transaction in calendar year 2017, as determined by the Compensation Committee. Notwithstanding the foregoing, the Company reserves the right to change or terminate any bonus program at any time in the Board's sole discretion.

(b) Benefits Plans. The Executive shall be entitled to participate in all health insurance, savings and retirement, and other benefit plans, if any, that are from time to time applicable to other employees of the Company.

(c) Vacation and Personal Days. The Executive shall be entitled to five (5) weeks of paid vacation time per year and three (3) paid personal days per year, in accordance with the plans, practices, policies, and programs agreed to by Company, which shall be pro-rated for 2017 from the Effective Date through the end of the fiscal year.

(d) Expense Reimbursement. The Executive shall be entitled to receive reimbursement for all reasonable employment-related expenses incurred by the Executive upon the receipt by the Company of an accounting in accordance with practices, policies and procedures applicable to other employees of the Company.

(e) Equity Grant.

(i) On the Effective Date, and subject to approval by the Compensation Committee of the Board (the "Compensation Committee"), the Executive will receive an inducement grant in the form of an option on 75,000 shares of the Company's common stock (the "Option") which shall not be granted pursuant to the Recro Pharma, Inc. Amended and Restated Equity Incentive Plan (the "Equity Incentive Plan"). One forty-eighth of the Option shall vest on each monthly anniversary of the Effective Date, provided that the Executive is still employed on such date. The term of the Option shall be ten years.

(ii) On the Effective Date, and subject to approval by the Compensation Committee, the Executive will receive an inducement grant in the form of 12,000 time-based restricted stock units of the Company's common stock (the "Time-Based RSUs"), which shall not be granted pursuant to the Equity Incentive Plan. The Time-Based RSUs shall vest in equal allotments on an annual basis at twenty-five percent (25%) per year over four years.

(iii) If Executive's employment is terminated under circumstances described in Section 10(a)(iii) within the period that ends twelve months after a Change of Control (as defined in the Equity Incentive Plan) or in Section 10(a)(v), the Option and the Time-Based RSUs, to the extent not already vested as a result of the Change of Control, shall be vested in full.

(iv) The Executive shall be eligible for a regular annual option grant (with such eligibility determined on the same basis as other senior executives, in the discretion of the Compensation Committee) and for other grants under the Equity Incentive Plan, or any other equity or long-term incentive plan adopted by the Company. The terms of any such grants shall be determined in the discretion of the Compensation Committee.

All stock options granted to the Executive shall be incentive stock options to the fullest extent permitted by law.

5. Confidential Information.

(a) The Executive agrees at all times during the term of his employment with the Company and thereafter, to hold in strictest confidence, and not to use, except for the benefit of the Company, or to disclose to any person or entity ("Person") without prior written authorization of the Company, any Confidential Information of the Company. The Executive understands that "Confidential Information" means Inventions (as defined herein) and any other information of the Company and/or its affiliates disclosed or made available to the Executive, whether before or during the term hereof, including but not limited to financial information, technical and non-technical data, services, products, processes, operations, reports, analyses, test results, technology, samples, specifications, protocols, performance standards, formulations, compounds, know-how, methodologies, trade secrets, trade practices, marketing plans and materials, strategies, forecasts, research, concepts, ideas, and names, addresses and any other characteristics or identifying information of the Company's existing or potential investors, licensors, licensees, suppliers, customers or employees. Confidential Information shall not include any information the Executive can establish by competent proof is or becomes public knowledge or part of the public domain through no act or omission of the Executive. Notwithstanding the foregoing, the Executive shall be permitted to disclose Confidential Information pursuant to a court order, government order or any other legal requirement of disclosure if no suitable protective order or equivalent remedy is available, provided that the Executive gives the Company written notice of such court order, government order or legal requirement of disclosure immediately upon knowledge thereof and allows the Company a reasonable opportunity to seek to obtain a protective order or other appropriate remedy prior to such disclosure to the extent permitted by law. Further, it shall not be a violation of the Executive's confidentiality obligations if disclosure of confidential information (A) is made (i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigation a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

(b) The Executive agrees that he shall not, during his employment with Company, improperly use or disclose any proprietary information or trade secrets of any former employer of the Executive or other Person and that the Executive will not bring onto the premises of the Company any unpublished documents or proprietary information belonging to any such former employer or Person unless consented to in writing by such former employer or Person.

(c) The Executive recognizes that the Company has received and in the future will receive from third parties certain confidential or proprietary information subject to a duty on the Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. The Executive agrees to hold all such confidential or proprietary information in the strictest confidence and not to disclose it to any Person, or to use it except as necessary in carrying out his work for the Company consistent with Company's agreement with such third party.

6. Inventions.

(a) The Executive agrees that he shall promptly make full written disclosure to Company, shall hold in trust for the sole right and benefit of Company, shall assign and hereby does assign to Company, or its designee, all of the Executive's right, title, and interest in and to any and all inventions, original works of authorship, developments, concepts, improvements, designs, discoveries, ideas, trademarks or trade secrets, whether or not patentable or registerable under copyright or similar laws, which the Executive may, solely or jointly, conceive or develop or reduce to practice during the period of time the Executive is in the employ of the Company that relate to the Company and/or its products (collectively referred to as "Inventions"). The Executive further acknowledges that all original works of authorship which are made by the Executive (solely or jointly with others) within the scope of and during the period of his employment with the Company and which are protectable by copyright are "works made for hire", as that term is defined in the United States Copyright Act. The Executive understands and agrees that the decision whether or not to commercialize or market any invention developed by the Executive (solely or jointly with others) is within Company's sole discretion and for Company's sole benefit and that no royalty will be due to the Executive as a result of Company's efforts to commercialize or market any such invention.

(b) The Executive agrees to keep and maintain adequate and current written records of all Inventions made by the Executive (solely or jointly with others) during the term of his employment with Company. The records will be in the form of notes, sketches, drawings, and any other format that may be specified by Company. The records will be available to and remain the sole property of the Company at all times.

(c) If the Company is unable because of the Executive's mental or physical incapacity or for any other reason to secure his signature on any such document, then the Executive hereby irrevocably designates and appoints the Company and its duly authorized officers and agents as his agent and attorney-in-fact to act for and in the Executive's behalf and stead to execute and file any such document and to do all other lawfully permitted acts to further the prosecution and issuance of letters patent or copyright registrations thereon with the same legal force and effect as if executed by the Executive.

7. Returning Company Documents. The Executive agrees that, at the time of leaving the employ of the Company, he shall deliver to the Company (and will not keep in his possession, recreate or deliver to anyone else) any and all devices, records, data, notes, reports, proposals, lists, correspondence, materials, equipment, other documents or property, or reproductions of any of the aforementioned items developed by the Executive pursuant to his employment with the Company or otherwise belonging to the Company, its successors or assigns.

8. Nonsolicitation and Noncompetition.

(a) The Executive agrees that during the term of his employment with the Company and for a period of one (1) year immediately following the termination of the Executive's employment with the Company for any reason whatsoever, whether with or without cause, (i) the Executive shall not, either directly or indirectly, solicit, induce, recruit or encourage any employees of the Company and/or its affiliates to leave their employment, or take away such employees, or attempt to solicit, induce, recruit, encourage or take away employees of the Company and/or its affiliates, either for the Executive or for any other Person and (ii) neither the Executive, nor any firm, organization or corporation in which he is interested, shall, for any reason, directly or

indirectly, persuade or attempt to persuade any investor, licensor, licensee, supplier or customer of Company, or any potential investor, licensor, licensee, supplier or customer to which the Company and/or its affiliates have made a presentation or with which the Company and/or its affiliates have been having discussions, to not transact business with the Company and/or its affiliates or to transact business with the Executive or any other Person as an alternative to or in addition to the Company and/or its affiliates.

(b) The Executive agrees that during the term of his employment with the Company and for a period of one (1) year immediately following the termination of the Executive's employment with the Company for any reason whatsoever, whether with or without cause, the Executive shall not, anywhere in the world, engage, either directly or indirectly, whether as a principal or as an agent, officer, director, employee, consultant, shareholder, partner or otherwise, alone or in association with any other Person, in any Competing Business. For purposes of this Agreement, the term "Competing Business" shall mean any Person engaged in the development or commercialization of products that are the same or substantially similar to, or that directly compete with, those products developed, commercialized or actively in development or commercialization by the Company.

(c) In the event that the provisions of subparagraphs (a) or (b) above should be determined by a court or other tribunal of competent jurisdiction to exceed the time, geographic, services or product limitations permitted by the applicable law in a jurisdiction in which enforcement of this Agreement is sought, then such provisions shall be deemed reformed in such jurisdiction to the maximum time, geographic, service or product limitations permitted by such applicable law, and the parties hereby expressly grant any court or competent jurisdiction the authority to effect such reformation.

9. Equitable Relief. The parties confirm that a violation by the Executive of the provisions of this Agreement, including but not limited to, the restrictions in Sections through 5 through 8, will cause the Company irreparable harm that cannot be remedied adequately by monetary damages. The Executive agrees that, in the event of such a violation, the Company shall be entitled to seek temporary, preliminary and permanent injunctive relief to restrain any such violation (without the posting of a bond) and to an equitable accounting of all earnings, profits and other benefits arising from the breach or violation, which rights shall be cumulative and in addition to any other rights or remedies to which the Company may be entitled. The Company shall be entitled to commence action for such relief in any state or federal court in the Commonwealth of Pennsylvania, and the Executive waives to the fullest extent permitted by law any objection that he may now or hereafter have to the jurisdiction and venue of the court in any such proceeding. In any such action, the prevailing party (once all appeals have been exhausted) shall be entitled to recover its or his, as the case may be, reasonable attorney's fees, out-of-pocket costs and disbursements.

10. Termination of Employment.

(a) Notwithstanding the provisions of Section 2 hereof, the Executive's employment shall terminate, or be subject to termination, as follows:

(i) Death or Disability. In the event the Executive dies, this Agreement shall terminate. If the Executive becomes entitled to long-term disability benefits under the Company's then-current disability insurance policy(ies) applicable to the Executive, the Company may, at its option, terminate the Executive's employment

hereunder effective immediately upon written notice. If the Company does not have in effect disability insurance covering the Executive and/or if "disabled" is not defined therein, the Executive shall be deemed disabled hereunder at such time that he suffers a physical or mental disability that renders him unable to perform the duties of his employment on substantially a full-time basis, and such period of physical or mental disability continues without substantial interruption for more than one hundred eighty (180) days.

(ii) By Company for Cause. The Company may, at any time, terminate the Executive's employment hereunder for Cause. For purposes of this Agreement, the Company shall have "Cause" to terminate the Executive's employment hereunder upon (a) conduct amounting to fraud or dishonesty against the Company; (b) the willful failure by the Executive to substantially perform his duties hereunder or the material violation by the Executive of any of the other provisions of this Agreement, which willful failure or material violation shall continue for thirty (30) days or more following written notice to the Executive; (c) the Executive's loss of any permit, license, accreditation or other authorization necessary to the Executive's performance of his duties hereunder, as determined by the Company in its sole discretion; (d) the Executive's conviction of a felony or a plea by the Executive of nolo contendere to a felony; or (e) other willful conduct by the Executive likely, in the reasonable judgment of the Board, to materially adversely affect the reputation of the Company, which conduct shall continue for five (5) days or more following written notice to the Executive. No act, or omission to act, shall be considered "willful" unless such act or omission is done without a good faith belief by the Executive that such act or omission is in, or not opposed to, the best interests of the Company.

(iii) By Company for Convenience. The Company may terminate the Executive's employment hereunder at any time, without Cause, upon no less than thirty (30) days prior written notice to Executive.

(iv) By Executive for Convenience. The Executive may terminate his employment hereunder at any time upon no less than thirty (30) days prior written notice to the Company.

(v) By Executive upon a Change of Control. The Executive may terminate his employment hereunder at any time during the twelve (12) months following a Change of Control, if during such twelve-month period the Company and/or its successor (a) materially and adversely changes the status, responsibilities or perquisites of the Executive and such change is not cured within thirty (30) days following written notice by the Executive to the Company, (b) reduces the Executive's Base Salary other than as permitted by Section 3 or the amount of the Target Bonus, or (c) requires the Executive to be principally based at any office or location more than fifty (50) miles from the Executive's principal office immediately prior to the Change of Control; provided, however, that the Executive shall not be entitled to resign pursuant to this Section 10(a)(v) unless the Executive notifies the Company in writing of the circumstances outlined in Section 10(a)(v)(a) through 10(a)(v)(c) within thirty (30) days after he first has notice of such circumstances, the Company fails to cure such circumstances within thirty (30) days after receipt of such notice, and the Executives resigns his employment not later than ten

(10) days after the end of such cure period. For purposes of this Agreement, a "Change of Control" shall be deemed to have occurred upon the happening of any of the following events: (i) the consummation of a plan of dissolution or liquidation of the Company; (ii) the consummation of the sale or disposition of all or substantially all of the assets of the Company; (iii) the consummation of a merger, consolidation or other shareholder-approved fundamental business transaction in which the Company is a participant with another entity where the stockholders of the Company, immediately prior to the referenced transaction, will not beneficially own, immediately after the referenced transaction, shares or other equity interests entitling such stockholders to more than 50% of all votes to which all equityholders of the surviving entity would be entitled in the election of directors; (iv) the date any entity, person or group, (within the meaning of Section 13(d)(3) or Section 14(d)(2) of the Securities Exchange Act of 1934, as amended), (other than (A) the Company or any of its subsidiaries or any employee benefit plan (or related trust) sponsored or maintained by the Company or any of its subsidiaries or (B) any person who, on the date the Plan is effective, is the beneficial owner of outstanding securities of the Company), shall have become the beneficial owner of, or shall have obtained voting control over, more than fifty percent (50%) of the outstanding shares of the Common Stock; or (v) the first day after the date hereof when directors are elected such that a majority of the Board shall have been members of the Board for less than twenty-four (24) months, unless the nomination for election of each new director who was not a director at the beginning of such twenty-four (24) month period was approved by a vote of at least two-thirds of the directors then still in office who were directors at the beginning of such period.

(b) Severance.

(i) In the event of any termination of the Executive's employment for any reason, the Executive (or his estate) shall be entitled to (A) his Base Salary through the date of termination, (B) the value of his accrued but unused vacation and paid time off through the date of termination, (C) except in the case of termination for Cause, any bonus earned in a prior year but not yet paid on the date of termination, (D) reimbursement of all business expenses properly incurred prior to the date of termination consistent with Company policy, and (E) any benefits, including any continuation or conversion rights, provided under any employee benefit plan or policy of the Company (not including any severance, separation pay, or supplemental unemployment benefit plan), in accordance with the terms of such plan or policy (the "Accrued Benefits").

(ii) In the event of termination of the Executive's employment by reason of death or Disability, the Company shall pay or provide to the Executive or the Executive's estate (A) the Accrued Benefits, (B) the Executive's Base Salary, in accordance with its normal payroll practices (but not less frequently than monthly), for a period of six (6) months from the effective date of such termination, (C) an amount equal to the Executive's Target Bonus for the fiscal year of termination pro-rated through the date of termination (determined based on the number of days in the calendar year that the Executive is employed by the Company in such year of the effective date of termination) and paid within thirty (30) days following such termination, and (D) continued health benefits for the Executive and his eligible dependents at the Company's expense (or such

portion thereof as is then funded by the Company for other employees of the Company), if applicable, for the same period.

(iii) In the event of a nonrenewal or termination by the Company pursuant to Section 2 or Section 10(a)(iii), or if the Executive terminates this Agreement during the twelve (12) months after a Change of Control pursuant to Section 10(a)(v), the Company shall (A) pay or provide to the Executive the Accrued Benefits, (B) pay the Executive a pro-rata annual bonus in respect of the fiscal year in which the effective date of termination occurs (determined based on the number of days in the calendar year that the Executive is employed by the Company in such fiscal year of the effective date of termination), with such annual bonus (if any) paid at the same time it would have otherwise been paid absent the Executive's termination of employment, (C) continue to pay the Executive his Base Salary, in accordance with its normal payroll practices (but not less frequently than monthly), and shall continue the Executive's, and his eligible dependents', health insurance benefits at Company's expense (or such portion thereof as is then funded by the Company for other employees of the Company) for a period of twelve (12) months from the effective date of such termination, and (D) provide the Executive, at the Company's expense, with senior executive level outplacement services for a period of twelve (12) months from the date of termination, using a reputable provider selected by the Executive with the Company's consent, which shall not be unreasonably withheld, provided that such outplacement expenses shall not exceed $25,000 in any event.

(iv) Except as expressly provided in this Section 10(b), upon the termination of the Executive's employment, all payments hereunder shall cease.

(v) The payments and benefits described in Sections 10(b)(ii) and 10(b)(iii) are in lieu of, and not in addition to, any other severance arrangement maintained by the Company. The payments and benefits described in Sections 10(b)(ii) and 10(b)(iii), other than the Accrued Benefits, are conditioned on:

i. The Executive's (or in the case of Executive's death, his/her estate's) execution and delivery to the Company and the expiration of all applicable statutory revocation periods, by the sixtieth (60th) day following the effective date of his termination of employment, of a general release of claims against the Company and its affiliates substantially in the form attached hereto as Exhibit A (the "Release"). Subject to Section 11 below, the payments and benefits described in Section 10(b)(ii) and 10(b)(iii) will begin to be paid or provided as soon as administratively practicable after the Release becomes irrevocable, provided that if the sixty (60) day period described above begins in one taxable year and ends in a second taxable year such payments or benefits shall not commence until the second taxable year.

ii. The Executive's continued compliance with the provisions of Sections 5, 6, 7 and 8 of this Agreement.

(vi) The Executive shall not be required to seek or accept other employment, or otherwise to mitigate damages, as a condition to receipt of the benefits

described in Sections 10(b)(ii) and 10(b)(iii), and such benefits shall not be reduced or offset by an amounts received by the Executive from any other source, except to the extent the Executive's medical coverage is discontinued by reason of his acquiring other coverage.

(c) The provisions of this Agreement shall survive expiration or termination of this Agreement for any reason to the extent necessary to enable the parties to enforce their respective rights hereunder, including without limitation Sections 4(e), 5, 6, 7, 8, 9, 10(b), 10(c), 11, 12, 13, 14, 15 and 16.

11. Compliance with Section 409A.

(a) Notwithstanding anything to the contrary in this Agreement, all benefits or payments provided by the Company to the Executive that would be deemed to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code are intended to comply with Section 409A of the Code. Notwithstanding anything in this Agreement to the contrary, distributions of benefits which constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code may be made under this Agreement upon an event and in a manner permitted by Section 409A of the Code or an applicable exemption.

(b) Notwithstanding anything to the contrary in this Agreement, no portion of the benefits or payments to be made under Section 10(b) hereof will be payable until the Executive has a "separation from service" from the Company within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"). In addition, to the extent compliance with the requirements of Treas. Reg. § 1.409A-3(i)(2) (or any successor provision) is necessary to avoid the application of an additional tax under Section 409A of the Code to payments due to the Executive upon or following his "separation from service", then notwithstanding any other provision of this Agreement (or any otherwise applicable plan, policy, agreement or arrangement), any such payments that are otherwise due within six months following the Executive's "separation from service" (taking into account the preceding sentence of this paragraph) will be deferred without interest and paid to the Executive in a lump sum immediately following that six month period. This paragraph should not be construed to prevent the application of Treas. Reg. § 1.409A-1(b)(9)(iii) (or any successor provision) to amounts payable hereunder. For purposes of the application of Section 409A of the Code, each payment in a series of payments will be deemed a separate payment.

(c) Notwithstanding anything to the contrary in this Agreement, except to the extent any expense, reimbursement or in-kind benefit provided to the Executive does not constitute a "deferral of compensation" within the meaning of Section 409A of the Code, and its implementing regulations and guidance, (i) the amount of expenses eligible for reimbursement or in-kind benefits provided to the Executive during any calendar year will not affect the amount of expenses eligible for reimbursement or in-kind benefits provided to the Executive in any other calendar year, (ii) the reimbursements for expenses for which the Executive is entitled to be reimbursed shall be made on or before the last day of the calendar year following the calendar year in which the applicable expense is incurred and (iii) the right to payment or reimbursement or in-kind benefits hereunder may not be liquidated or exchanged for any other benefit.

12. Parachute Payment.

(a) If any payment or benefit the Executive would receive under this Agreement or otherwise in connection with a Change of Control, as defined herein (the "Total Payments") would (i) constitute a "Parachute Payment" within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Total Payment shall be equal to the Reduced Amount. The " Reduced Amount" shall be either (x) the largest portion of the Total Payment that would result in no portion of the Total Payment being subject to the Excise Tax or (y) the largest portion, up to and including the total of the Total Payment, whichever amount, after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in the Executive's receipt, on an after-tax basis, of the greatest economic benefit notwithstanding that all or some portion of the Total Payment may be subject to the Excise Tax. If a reduction in payments or benefits constituting Parachute Payments is necessary so that the Total Payment equals the Reduced Amount, reduction shall occur in the manner that results in the greatest economic benefit for the Executive. In applying this principle, the reduction shall be made in a manner consistent with the requirements of Section 409A of the Code, and where two economically equivalent amounts are subject to reduction but payable at different times, such amounts shall be reduced on a pro rata basis but not below zero.

(b) In the event it is subsequently determined by the Internal Revenue Service that some portion of the Reduced Amount (as determined pursuant to clause (x) in the preceding paragraph) is subject to the Excise Tax, the Executive agrees to promptly return to the Company a sufficient amount of the Total Payment so that no portion of the Reduced Amount is subject to the Excise Tax. For the avoidance of doubt, if the Reduced Amount is determined in accordance with clause (y) in the preceding paragraph, the Executive will have no obligation to return any portion of the Total Payment pursuant to the preceding sentence. Unless the Executive and the Company agree on an alternative accounting or law firm, the accounting firm then engaged by the Company for general tax compliance purposes shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the Change of Control, the Company shall appoint a nationally recognized accounting, law or consulting firm to make the determinations required hereunder. The Company shall bear all expenses with respect to the determinations by such accounting, law or consulting firm required to be made hereunder.

(c) The Company shall use commercially reasonable efforts such that the accounting, law or consulting firm engaged to make the determinations hereunder shall provide its calculations, together with detailed supporting documentation, to the Executive and the Company within fifteen (15) calendar days after the date on which the Executive's right to a Total Payment is triggered (if requested at that time by the Executive or the Company) or such other time as requested by the Executive or the Company.

13. Notices. All notices, consents, waivers or other communications which are required or permitted hereunder will be sufficient if given in writing and delivered by e-mail and simultaneously personally, by overnight mail service, by fax transmission (which is confirmed) or by registered or certified mail, return receipt requested, postage prepaid, to the parties at the addresses set forth below (or to such other addressee or address as will be set forth in a notice given in the same manner):

If to the Company: Recro Pharma, Inc.
490 Lapp Road
Malvern, PA 19355, USA
Attn: Gerri Henwood
CEO

If to the Executive: Jyrki Mattila, MD, PhD, MBA
E-mail: jyrmat@gmail.com
Mailing address:
9 Spring Mill Lane
Haverford
PA 19041

All such notices will be deemed to have been given three business days after mailing if sent by registered or certified mail, one business day after mailing if sent by overnight courier service, or on the date delivered or transmitted if delivered personally or sent by fax or email transmission.

14. Indemnification. To the maximum extent permitted by applicable law, both during the term of this Agreement and at all times thereafter, regardless of the reason for termination, the Company shall indemnify the Executive and hold the Executive harmless against any cost, fee, expense, fine or penalty (a "cost") to which he may be subject as a result of serving as an employee or officer of the Company or any other entity at the Company's direction, shall advance to the Executive, as incurred, the reasonable costs (including fees and disbursements of legal counsel) incurred by him in defending any judicial or administrative proceeding, including any investigation, that may give rise to a cost, subject to the Executive's obligation to repay any such advance if it is subsequently determined that he was not entitled to indemnification, and shall provide for the Executive to be covered by its directors and officers, or any similar, insurance policy at the level applicable to its most senior active officers.

15. Nondisparagement. Both during the term of this Agreement and at all times thereafter, regardless of the reason for termination, the Executive shall not publicly disparage the Company, and the Company shall instruct the members of the Board and its senior executives not to publicly disparage the Executive.

16. Miscellaneous.

(a) No provision of this Agreement may be amended unless such amendment, modification or discharge is agreed to in writing signed by the parties hereto.

(b) No waiver by any party hereto of any breach of, or compliance with, any condition or provision of this Agreement by the other party shall be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time. No such waiver shall be enforceable unless expressed in a written instrument executed by the party against whom enforcement is sought.

(c) This Agreement constitutes the entire agreement of the parties on the subject matter and no agreements or representations, oral or otherwise, expressed or implied, with respect to the subject matter hereof have been made by either party which are not set forth expressly in this Agreement. For the avoidance of doubt, any prior agreements or representations made by either party which are not set forth expressly in this Agreement, including, but not limited to, the Offer Letter dated July 19, 2017, are hereby superseded. In the event of any conflict between this Agreement and any policy of the Company, the terms of this Agreement will control.

(d) This Agreement shall be binding upon and inure to the benefit of the Company, its successors and assigns, and the Executive and his heirs, executors, administrators and legal representatives. The Company may not assign its rights and obligations under this Agreement to any person without the prior written consent of the Executive, except to a successor to the Company's business that expressly adopts and agrees to be bound by this Agreement.

(e) This Agreement shall be governed by, and construed in accordance with, the laws of the Commonwealth of Pennsylvania without giving effect to its principles of conflicts of law. Exclusive jurisdiction for any dispute between the parties arising from or in connection with this Agreement and/or the relationship between the Executive and the Company shall lie with the federal and state courts located in the Commonwealth of Pennsylvania, and each party hereby consents to the personal jurisdiction of such courts.

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

(g) This Agreement has been jointly drafted by the respective representatives of the Company and the Executive and no party shall be considered as being responsible for such drafting for the purpose of applying any rule construing ambiguities against the drafter or otherwise. No draft of this Agreement shall be taken into account in construing this Agreement.

[Execution page follows]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

EXECUTIVE:

/s/ Jyrki Mattila, MD, PhD, MBA
Jyrki Mattila, MD, PhD, MBA

COMPANY:

RECRO PHARMA, INC.

By: /s/ Gerri Henwood
Gerri Henwood, President

Exhibit A

SEPARATION AND MUTUAL RELEASE AGREEMENT

THIS SEPARATION AND MUTUAL RELEASE AGREEMENT (this " **Release**") is made by and between Jyrki Mattila, MD, PhD, MBA (the "**Executive**") and Recro Pharma, Inc. (the "**Company**").

WHEREAS, the Executive's employment with the Company has terminated; and

WHEREAS, pursuant to Section 10(b)[ii][iii] of the Employment Agreement by and between the Company and the Executive dated as of July __, 2017 (the "**Employment Agreement**"), the Company has agreed to pay the Executive certain amounts and to provide certain benefits, subject to his execution and non-revocation of this Release. All terms used but not defined herein shall have the meanings ascribed to such terms in the Employment Agreement.

NOW THEREFORE, in consideration of these premises and the mutual promises contained herein, and intending to be legally bound hereby, the parties agree as follows:

1. Consideration. The Executive acknowledges that: (i) the payments set forth in Section 10(b)[ii][iii] of the Employment Agreement constitute full settlement of all his rights under the Employment Agreement, (ii) he has no entitlement under any other severance or similar arrangement maintained by the Company or any of its affiliates, and (iii) except as otherwise provided specifically in this Release, the Company does not and will not have any other liability or obligation to the Executive by reason of the cessation of his employment. The Executive further acknowledges that, in the absence of his execution of this Release, the payments and benefits specified in Section 10(b)[ii][iii] of the Employment Agreement would not otherwise be due to him.

2. Mutual Release and Covenant Not to Sue.

2.1. Mutual Release. The Executive, on his own behalf and together with his heirs, assigns, executors, agents and representatives hereby fully and forever releases and discharges the Company, its predecessors, successors (by merger or otherwise), parents, subsidiaries, affiliates and assigns, together with each and every of their present, past and future officers, directors, shareholders, general partners, limited partners, employees and agents (in their official, individual and all other capacities), and all other persons or entities acting with, for, through or in concert with any of them (herein collectively referred to as the "**Company Releasees**") from any and all claims, demands, liens, agreements, contracts, covenants, actions, suits, causes of action, obligations, controversies, debts, costs, expenses, damages, judgments, orders and liabilities, of whatever kind or nature, direct or indirect, in law, equity or otherwise, whether known or unknown, which the Executive now has, or hereafter can, shall or may have for, upon or by reason of any act, transaction, practice, conduct, matter, cause or thing of any kind or nature whatsoever (each, a "**Claim**") arising or occurring through the Effective Date of this Release. The Company hereby fully and forever releases and discharges the Executive from any Claim arising or occurring through the Effective Date of this Release, including, but not limited to, any Claim arising out of the Executive's employment by the Company or the termination thereof.

2.2. Covenant Not to Sue. The Executive expressly represents that he has not filed a lawsuit or initiated any other administrative proceeding against the Company and that he has not assigned

any claim against the Company to any other person or entity. The Company expressly represents that it has not filed a lawsuit or initiated any other administrative proceeding against the Executive and that it has not assigned any claim against the Executive to any other person or entity. Both the Executive and Company further promise not to initiate a lawsuit or to bring any other claim against the other arising out of or in any way related to the Executive's employment by the Company or the termination of that employment. Notwithstanding anything in this Release to the contrary, this Release will not prevent the Executive from filing a charge with the Equal Employment Opportunity Commission (or similar state agency) or participating in any investigation conducted by the Equal Employment Opportunity Commission (or similar state agency); provided, however, that any claims by the Executive for personal relief in connection with such a charge or investigation (such as reinstatement or monetary damages) will be barred.

2.3. Claims Not Released. Notwithstanding Section 2.1, the forgoing release of any Claim does not release the Company or the Executive from claims : (a) to enforce this Release, (b) claims to enforce the Executive's rights under any employee benefit plan in accordance with the terms of the applicable plan(s), or (c) for indemnification under the Company's By-Laws, under applicable law, or under any indemnification agreement between the Company and the Executive. Additionally, the foregoing does not release the Executive from claims the Company may have arising out of or related to: (x) Executive's criminal or other serious misconduct related to the Company, (y) Executive's breach of fiduciary duty to the Company, or (z) Executive's material breach of any agreement with the Company.

2.4. Claims Released. The Executive understands and agrees that the claims released in Section 2.1 include, but are not limited to: (a) any Claim based on any law, statute, or constitution or based on contract or in tort or based on common law; (b) any Claim based on or arising under any civil rights laws, labor laws, or employment laws, such as the Pennsylvania Human Relations Act, or the civil rights laws of any other state or jurisdiction, or Title VII of the Civil Rights Act of 1964 ("**Title VII**"), or the federal Age Discrimination in Employment Act of 1967 ("**ADEA**"), or the Americans with Disabilities Act of 1990 ("**ADA**"), or the Civil Rights Act of 1991, or the Worker Adjustment and Retraining Notification Act ("**WARN**"); (c) any Claim under any grievance or complaint procedure of any kind; (d) any Claim based on or arising out of or related to the Executive's recruitment by, employment with, the termination of the Executive's employment with, the Executive's performance of any services in any capacity for, or any business transaction with, any or all of the Company Releasees (including, but not limited to any claim for wrongful or retaliatory discharge); (e) any Claim for a personal recovery by the Executive in connection with, or arising from, any lawsuit or proceeding brought by any person or entity other than the Executive (including, but not limited to, any Claim brought by any administrative agency, department or commission); (f) any Claim for the Executive's attorneys' fees, costs or expenses relating to this Release; and (g) any other Claim for compensation of any kind.

3. Cooperation. The Executive further agrees that he will cooperate fully with the Company and its counsel with respect to any matter (including litigation, investigations, or governmental proceedings) in which the Executive was in any way involved during his employment with the Company. The Executive shall render such cooperation in a timely manner on reasonable notice from the Company.

4. Mutual Non-Disparagement. The Company's officers and directors will not disparage the Executive or the Executive's performance or otherwise take any action which could reasonably be expected to adversely affect the Executive's personal or professional reputation. Similarly, the Executive will not disparage the Company or any of its directors, officers, agents or employees or otherwise take any action which could reasonably be expected to adversely affect the personal or professional reputation of the Company or any of its directors, officers, agents or employees.

5. Permitted Conduct. Notwithstanding anything in this Release to the contrary, nothing in this Release shall prohibit or restrict the Executive from: (a) initiating communications directly with, or responding to any inquiry from, or providing testimony before, the SEC, FINRA, any other self-regulatory organization or any other state or federal regulatory authority; (b) making any disclosure of relevant, necessary and truthful information or documents: (i) pursuant to the Sarbanes-Oxley Act; (ii) as otherwise required by law or legal process; (iii) in connection with any charge, action, investigation or proceeding relating to this Release; or (iv) to the Company's Legal Department.

6. Restrictive Covenants. The Executive acknowledges that the restrictive covenants contained in Sections 5, 6, 7, 8 and 9 of the Employment Agreement will survive the termination of his employment (the "**Restrictive Covenants**"). The Executive affirms that the Restrictive Covenants are reasonable and necessary to protect the legitimate interests of the Company, that he received adequate consideration in exchange for agreeing to the Restrictive Covenants and that he will abide by the Restrictive Covenants.

7. Rescission Right. The Executive expressly acknowledges and recites that: (a) he has read and understands the terms of this Release in its entirety, (b) he has entered into this Release knowingly and voluntarily, without any duress or coercion, (c) he has been advised orally and is hereby advised in writing to consult with an attorney with respect to this Release before signing it, (d) he was provided at least twenty-one (21) calendar days after receipt of the Release to consider its terms before signing it, and (e) he is provided seven (7) calendar days from the date of signing to terminate and revoke this Release, in which case this Release shall be unenforceable, null and void. The Executive may revoke this Release during those seven (7) days by providing written notice of revocation to Recro Pharma, Inc., 490 Lapp Road, Malvern, PA 19355 Attn: Chief Executive Officer. Provided that the Executive does not revoke this Release, the Release shall become effective on the eighth (8th) day following the Executive's execution of the Release (the "**Effective Date**").

8. Medicare Beneficiary Representation. The Executive warrants that, as of the date he signs this Agreement, he is not a Medicare beneficiary, is not Medicare eligible, is not within 30 months of becoming Medicare eligible, is not 65 years of age or older, is not suffering from end stage renal failure or amyotrophic lateral sclerosis, has not received Social Security benefits for 24 months or longer, has not applied for Social Security benefits, and has not been denied Social Security disability benefits and is appealing the denial. The Executive affirms, covenants, and warrants that he has made no claim, nor is he aware of any facts supporting any claim, against any of the Company Releasees under which any of the Company Releasees could be liable for medical expenses incurred by the Executive before or after the execution of this Agreement. Furthermore, the Executive is aware of no medical expenses for which Medicare has paid and for which any of the Company Releasees is or could be liable. The Executive agrees and affirms that, to the best of his knowledge, no liens of any governmental entities, including those for Medicare conditional payments, exist. The Executive acknowledges and agrees that the payment(s) made to him under this Agreement may be reported as provided in Section 111 of the Medicare, Medicaid, and SCHIP Extension Act of 2007, 42 U.S.C. § 1395y(b)(8). The Executive also agrees to indemnify, defend, and hold the Company Releasees harmless from Medicare claims, liens, damages, conditional payments, and rights to payment, if any, including attorneys' fees. The Executive specifically waives any related claims for damages against any and all of the Company Releasees including, without limitation, a private cause of action provided by 42 U.S.C. § 1395y(b)(3)(A).

9. Miscellaneous.

9.1. Tax Withholding. All payments provided to the Executive will be subject to tax withholding in accordance with applicable law.

9.2. No Admission of Liability. This Release is not to be construed as an admission of any violation of any federal, state or local statute, ordinance or regulation or of any duty owed by the Company to the Executive. There have been no such violations, and the Company specifically denies any such violations.

9.3. No Reinstatement. The Executive agrees that he will not apply for reinstatement with the Company or seek in any way to be reinstated, re-employed or hired by the Company in the future.

9.4. Successors and Assigns. This Release shall inure to the benefit of and be binding upon the Company and the Executive and their respective successors, permitted assigns, executors, administrators and heirs. The Executive may not make any assignment of this Release or any interest herein, by operation of law or otherwise. The Company may assign this Release to any successor to all or substantially all of its assets and business by means of liquidation, dissolution, merger, consolidation, transfer of assets, or otherwise.

9.5. Severability. Whenever possible, each provision of this Release will be interpreted in such manner as to be effective and valid under applicable law. However, if any provision of this Release is held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provision, and this Release will be reformed, construed and enforced as though the invalid, illegal or unenforceable provision had never been herein contained.

9.6. Entire Agreement; Amendments. Except as otherwise provided herein, this Release contains the entire agreement and understanding of the parties hereto relating to the subject matter hereof, and merges and supersedes all prior and contemporaneous discussions, agreements and understandings of every nature relating to the subject matter hereof. This Release may not be changed or modified, except by an agreement in writing signed by each of the parties hereto.

9.7. Governing Law. This Release shall be governed by, and enforced in accordance with, the laws of the Commonwealth of Pennsylvania without regard to the application of the principles of conflicts of laws.

9.8. Execution Date; Counterparts and Facsimiles. This Release may not be signed by the Executive prior to the date of Executive's termination of employment. This Release may be executed in multiple counterparts (including by facsimile signature), each of which will be deemed to be an original, but all of which together will constitute but one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

[*space intentionally left blank; signature page follows*]

IN WITNESS WHEREOF, the Company has caused this Release to be executed by its duly authorized officer, and the Executive has executed this Release, on the date(s) below written.

RECRO PHARMA, INC.

By:

Name & Title:

Date: _____

JYRKI MATTILA, MD, PHD, MBA

Date: _____

Exhibit 31.1

CERTIFICATION

I, Gerri A. Henwood, certify that:

1. I have reviewed this Quarterly Report of Recro Pharma, Inc.;

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

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

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

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

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

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

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

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

    (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, 2017

/s/ Gerri A. Henwood
Gerri A. Henwood
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION

I, Michael Celano, certify that:

1. I have reviewed this Quarterly Report of Recro Pharma, Inc.;

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

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

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

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

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

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

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

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

   (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, 2017

/s/ Michael Celano
Michael Celano
Chief Financial Officer
(Principal Financial Officer)

Exhibit 31.3

CERTIFICATION

I, Ryan D. Lake, certify that:

1. I have reviewed this Quarterly Report of Recro Pharma, Inc.;

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

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

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

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

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

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

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

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

   (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, 2017

/s/ Ryan D. Lake
Ryan D. Lake
Chief Accounting Officer
(Principal Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Recro Pharma, Inc. (the "Company") on Form 10-Q for the quarter ended September 30, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to such officer's knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

Date: November 9, 2017

/s/ Gerri A. Henwood
Gerri A. Henwood
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Michael Celano
Michael Celano
Chief Financial Officer
(Principal Financial Officer)

/s/ Ryan D. Lake
Ryan D. Lake
Chief Accounting Officer
(Principal Accounting Officer)