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

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 001-37926

RA PHARMACEUTICALS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**26-2908274**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
87 Cambridge Park Drive Cambridge, MA	**02140**
(Address of principal executive offices)	(Zip code)

617-401-4060
(Registrant's telephone number, including area code)

N/A
(Former name, former address and former fiscal year, if changed since last report)

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of "accelerated filer," "large 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 ☐ Smaller reporting company ☒ Emerging growth company ☒

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

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.001 par value per share	RARX	Nasdaq Global Market

The number of shares outstanding of the registrant's common stock as of May 2, 2019 was 42,303,138.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends affecting the financial condition of our business. Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved.

Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terms such as "may," "might," "will," "objective," "intend," "should," "could," "can," "would," "expect," "believe," "anticipate," "project," "target," "design," "estimate," "predict," "potential," "plan" or the negative of these terms, and similar expressions and comparable terminology intended to identify forward-looking statements. The forward-looking statements in this Quarterly Report on Form 10-Q include, without limitation, expectations regarding the sufficiency of our cash and cash equivalents; our anticipated capital requirements and uses of cash; safety, efficacy and regulatory and clinical progress of our product candidates, including zilucoplan; trial design, timeline and enrollment of our ongoing and planned clinical programs; timing of the release of clinical trial data; and our collaboration with Merck & Co., Inc., including without limitation potential milestone payments thereunder. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties and other important factors that could cause our actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statements, including, but not limited to:

- the initiation, timing, progress and results of our research and development programs and future pre-clinical and clinical studies;
- the risk that topline data from our Phase 2 clinical program in generalized myasthenia gravis may not be indicative of results from future trials;
- our ability to advance any product candidates into, and successfully complete, clinical studies and obtain regulatory approval for them;
- our ability to identify additional product candidates using our Extreme Diversity™ platform;
- the timing or likelihood of regulatory filings and approvals;
- our ability to commercialize, market and manufacture our product candidates, if approved;
- the pricing and reimbursement of our product candidates, if approved;
- the rate and degree of market acceptance and clinical utility of any products for which we receive marketing approval;
- the implementation of our strategic plans for our business, product candidates and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and technology;
- our ability to maintain and establish collaborations;
- our financial performance;
- developments relating to our competitors and our industry, including the impact of government regulation; and
- other risks and uncertainties, including the important factors listed under Item 1A, "Risk Factors" and elsewhere in our Annual Report on Form 10-K for the year ended December 31, 2018, as supplemented by our subsequent filings with the Securities and Exchange Commission ("SEC").

Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of this Quarterly Report on Form 10-Q and, except as required by law, we undertake no obligation to update or revise publicly any forward looking-statements, whether as a result of new information, future events or otherwise after the date of this Quarterly Report on Form 10-Q. We qualify all of our forward-looking statements by these cautionary statements.

NOTE REGARDING TRADEMARKS

All brand names or trademarks appearing in this report are the property of their respective holders. Unless the context requires otherwise, references in this report to the "Company," "we," "us," and "our" refer to Ra Pharmaceuticals, Inc.

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PART I: FINANCIAL INFORMATION

Item 1. Financial Statements

RA PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(UNAUDITED)
(In thousands, except per share data)

	March 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 191,647	$ 209,822
Prepaid expenses and other current assets	3,911	2,585
Total current assets	195,558	212,407
Property and equipment, net	5,015	5,165
Operating lease right-of-use assets, net	2,864	—
Restricted cash	1,334	1,334
Other assets	298	314
Total assets	$ 205,069	$ 219,220
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 3,364	$ 3,245
Accrued expenses	5,322	6,477
Operating lease liabilities	1,042	—
Deferred rent	—	479
Total current liabilities	9,728	10,201
Operating lease liabilities, net of current portion	4,066	—
Deferred rent, net of current portion	—	1,880
Deferred tax liabilities	21	21
Total liabilities	13,815	12,102
Commitments and contingencies	—	—
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.001 par value; 150,000 shares authorized; 42,254 and 42,072 shares issued and outstanding as of March 31, 2019 and December 31, 2018, respectively	42	42
Additional paid-in capital	398,408	395,233
Accumulated deficit	(207,196)	(188,157)
Total stockholders' equity	191,254	207,118
Total liabilities and stockholders' equity	$ 205,069	$ 219,220

See Notes to Unaudited Condensed Consolidated Financial Statements.

RA PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)
(in thousands, except per share data)

	Three Months Ended March 31,	
	2019	2018
Operating expenses:		
Research and development	$ 15,282	$ 13,412
General and administrative	4,807	3,312
Total operating expenses	20,089	16,724
Loss from operations	(20,089)	(16,724)
Other income (expense), net	1,050	226
Net loss	$ (19,039)	$ (16,498)
Net loss per common share — basic and diluted	$ (0.45)	$ (0.61)
Weighted average number of common shares outstanding — basic and diluted	42,174	27,242

See Notes to Unaudited Condensed Consolidated Financial Statements.

RA PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(UNAUDITED)
(in thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Amount	Amount	Amount
December 31, 2018	**42,072**	**$ 42**	**$ 395,233**	**$ (188,157)**	**$ 207,118**
Exercise of common stock options	118	—	769	—	769
Stock-based compensation	—	—	2,890	—	2,890
Shares issued under stock option and employee purchase plans, net of tax withholdings	64	—	(484)	—	(484)
Net loss	—	—	—	(19,039)	(19,039)
March 31, 2019	**42,254**	**$ 42**	**$ 398,408**	**$ (207,196)**	**$ 191,254**

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Amount	Amount	Amount
December 31, 2017	**22,626**	**$ 23**	**$ 192,375**	**$ (123,214)**	**$ 69,184**
Issuance of common stock from public offerings, net of underwriter discounts and issuance costs	9,660	9	54,034	—	54,043
Exercise of common stock options	—	—	—	—	—
Stock-based compensation	—	—	1,946	—	1,946
Net loss	—	—	—	(16,498)	(16,498)
March 31, 2018	**32,286**	**$ 32**	**$ 248,355**	**$ (139,712)**	**$ 108,675**

RA PHARMACEUTICALS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)
(in thousands)

	Three Months Ended March 31,	
	2019	2018
Cash flows from operating activities		
Net loss	$ (19,039)	$ (16,498)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	530	386
Stock-based compensation	2,890	1,946
Other, net	49	—
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(1,326)	692
Accounts payable and accrued expenses	(887)	(2,051)
Operating lease liabilities	(239)	—
Other, net	—	8
Net cash used in operating activities	(18,022)	(15,517)
Cash flows from investing activities		
Purchase of property and equipment	(195)	(29)
Net cash used in investing activities	(195)	(29)
Cash flows from financing activities		
Proceeds from common stock offering, net of underwriter discounts	—	54,482
Payment of common stock offering costs	(243)	(195)
Payments for restricted stock units vesting	(484)	—
Proceeds from exercises of stock options	769	—
Net cash provided by financing activities	42	54,287
Net increase (decrease) in cash, cash equivalents and restricted cash	(18,175)	38,741
Cash, cash equivalents and restricted cash, beginning of period	211,156	71,715
Cash, cash equivalents and restricted cash, end of period	$ 192,981	$ 110,456
Reconciliation of cash, cash equivalents and restricted cash:		
Cash, cash equivalents and restricted cash, end of period	192,981	110,456
Less restricted cash	(1,334)	(1,334)
Cash and cash equivalents, end of period	$ 191,647	$ 109,122
Non-cash investing and financing activities:		
Common stock offering costs incurred but unpaid at period end	$ —	$ 176
Changes in accounts payable and accrued expenses related to fixed asset additions	$ 93	$ 355

See Notes to Unaudited Condensed Consolidated Financial Statements.

RA PHARMACEUTICALS, INC.
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Basis of Presentation

The accompanying condensed consolidated financial statements are unaudited and have been prepared by Ra Pharmaceuticals, Inc. (the "Company") in accordance with accounting principles generally accepted in the United States ("U.S. GAAP") and pursuant to the rules and regulations of the Securities and Exchange Commission. The year-end condensed consolidated balance sheet data was derived from the Company's audited financial statements, but does not include all disclosures required by U.S. GAAP. These condensed consolidated financial statements should be read in conjunction with the Company's Annual Report on Form 10-K for the year ended December 31, 2018. The condensed consolidated financial statements, in the opinion of management, reflect all normal and recurring adjustments necessary for a fair statement of the Company's financial position and results of operations.

Description of Business

The Company is a clinical-stage biopharmaceutical company using its proprietary peptide chemistry platform to create novel therapeutics to treat life-threatening diseases that are caused by excessive or uncontrolled activation of the complement system, an essential component of the body's innate immune system. The Company's lead product candidate, zilucoplan, is being developed as a convenient self-administered subcutaneous (''SC'') injection, which is an injection into the tissue under the skin, for the treatment of various complement-mediated diseases, including generalized myasthenia gravis (''gMG'') and other complement mediated disorders. Additionally, the Company is pursuing discovery and pre-clinical programs targeting selective inhibition of other uncontrolled complement pathway factors to treat a variety of neurologic, renal, and inflammatory diseases. In addition to the Company's focus on developing novel therapeutics to treat complement-mediated diseases, the Company has validated its Extreme Diversity platform by successfully identifying and delivering orally-available cyclic peptides for a non-complement cardiovascular target with a large market opportunity in a collaboration with Merck & Co., Inc ("Merck").

The Company is subject to risks common to other life science companies in the development stage, including, but not limited to, uncertainty of product development and commercialization, lack of marketing and sales history, development by its competitors of new technological innovations, dependence on key personnel, market acceptance of products, product liability, protection of proprietary technology, ability to raise additional financing, and compliance with Food and Drug Administration and other government regulations. If the Company does not successfully commercialize any of its product candidates, it will be unable to generate recurring product revenue or achieve profitability. If the Company is unable to raise capital when needed or on attractive terms, it would be forced to delay, reduce, eliminate or out-license certain of its research and development programs or future commercialization efforts.

Since inception, the Company has generated an accumulated deficit of $207.2 million as of March 31, 2019 and has devoted substantially all of its efforts to research and development, business planning, acquiring operating assets, seeking protection for its technology and product candidates, and raising capital. As of March 31, 2019, we had cash and cash equivalents of $191.6 million, which is expected to fund operating expenses and capital expenditure requirements through at least the first quarter of 2021.

Principles of Consolidation

The Company's condensed consolidated financial statements reflect its financial statements and those of its subsidiaries in which the Company holds a controlling financial interest, including Cosmix, Ra Europe Limited, and Ra Pharmaceuticals Security Corporation. Intercompany balances and transactions are eliminated in consolidation.

Reclassifications

Certain reclassifications have been made to the prior year condensed consolidated balance sheet to conform to the current year presentation. These reclassifications have no impact on the Company's net loss or cash flows.

Use of Estimates

The preparation of condensed consolidated financial statements in accordance with U.S. GAAP requires that the Company make estimates and judgments that may affect the reported amounts of assets, liabilities, revenues, expenses and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, judgments and methodologies. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. Changes in estimates are reflected in reported results in the period in which they become known.

Summary of Significant Accounting Policies

The Company's significant accounting policies are described in Note 2, "Summary of Significant Accounting Policies," in the Company's Annual Report on Form 10-K for the year ended December 31, 2018. There have been no material changes to the significant accounting policies during the period ended March 31, 2019, except as described below.

Leases

Effective January 1, 2019, the Company adopted Accounting Standards Codification ("ASC"), Topic 842, *Leases* ("ASC 842"), using the required modified retrospective approach and utilizing the effective date as its date of initial application. The prior period is presented in accordance with the previous guidance in ASC 840, *Leases*.

At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present. Leases with a term greater than one year are recognized on the balance sheet as right-of-use assets, lease liabilities and, if applicable, long-term lease liabilities. The Company has elected not to recognize on the balance sheet leases with terms of one year or less. Operating lease liabilities and their corresponding right-of-use assets are recorded based on the present value of lease payments over the expected remaining lease term. However, certain adjustments to the right-of-use asset may be required for items such as incentives received. The interest rate implicit in lease contracts is typically not readily determinable. As a result, the Company utilizes its incremental borrowing rates, which are the rates incurred to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment.

In accordance with the guidance in ASC 842, components of a lease should be split into three categories: lease components (e.g. land, building, etc.), non-lease components (e.g. common area maintenance, consumables, etc.), and non-components (e.g. property taxes, insurance, etc.). Then the fixed and in-substance fixed contract consideration (including any related to non-components) must be allocated based on the respective relative fair values to the lease components and non-lease components.

Although separation of lease and non-lease components is required, certain practical expedients are available. Entities may elect the practical expedient to not separate lease and non-lease components. Rather, they would account for each lease component and the related non-lease component together as a single component. For new and amended leases beginning in 2019 and after, the Company has elected to account for the lease and non-lease components for leases for classes of all underlying assets and allocate all of the contract consideration to the lease component only.

Newly Adopted Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-02, "*Leases*", ("ASU 2016-02"), which superseded the lease accounting requirements in ASC 840, Leases and created a new ASC 842, Leases. ASC 842 requires a lessee to recognize assets and liabilities on the balance sheet for most leases and changes many key definitions, including the definition of a lease. The new standard includes a short-term lease exception for leases with a term of 12 months or less, as part of which a lessee can make an accounting policy election not to recognize lease assets and lease liabilities. Lessees will continue to differentiate between finance leases (previously referred to as capital leases) and operating leases using classification criteria that are substantially similar to the previous guidance.

ASU 2016-02 became effective on January 1, 2019, requiring the use of a modified retrospective transition approach applied at the beginning of the earliest comparative period presented in the financial statements. In July 2018, the FASB issued ASU 2018-11, Leases, Targeted Improvements, ("ASU 2018-11"), which contains certain amendments to ASU 2016-02 intended to provide relief in implementing the new standard. ASU 2018-11 provides registrants with an option to not restate comparative periods presented in the financial statements. The Company adopted this new standard on January 1, 2019 using a cumulative-effect adjustment on the effective date of the standard, for which comparative periods are presented in accordance with the previous guidance in ASC 840, Leases.

In adopting the new standard, the Company elected to utilize the available package of practical expedients permitted under the transition guidance within the new standard, which does not require the reassessment of the following: i) whether existing or expired arrangements are or contain a lease, ii) the lease classification of existing or expired leases, and iii) whether previous initial direct costs would qualify for capitalization under the new lease standard. Additionally, the Company made an accounting policy election to keep leases with a term of 12 months or less off of its balance sheet. The initial adoption of this standard resulted in the recognition of operating lease liabilities and right-of-use assets of $5.3 million and $3.0 million, respectively, on the Company's balance sheet. The $2.3 million difference between the account balances relates to the write-off of the previously existing ASC 840 balances, which was primarily driven by the tenant improvements allowance. The adoption of the standard did not have a material effect on the statements of operations or statement of cash flows.

In June 2018, the FASB issued ASU 2018-07, "Improvements to Nonemployee Share-Based Payment Accounting." The standard aligns the measurement and classification guidance for share-based payments to nonemployees with the guidance for share-based payments to employees, with certain exceptions. Under the new guidance, the measurement of equity-classified nonemployee awards is fixed at the grant date. The Company adopted this new standard on January 1, 2019. The adoption of ASU 2018-07 did not have a significant impact on its financial statements.

2. Supplemental Balance Sheet Information

Property and equipment, net

Property and equipment, net consists of the following (in thousands):

	March 31, 2019	December 31, 2018
Computer equipment and software	$ 60	$ 53
Furniture, fixtures and office equipment	390	390
Laboratory equipment	6,197	6,149
Construction in progress	147	—
Leasehold improvements	3,744	3,755
	10,538	10,347
Accumulated depreciation	(5,523)	(5,182)
Property and equipment, net	$ 5,015	$ 5,165

Depreciation expense was $0.4 million for each of the three month periods ended March 31, 2019 and 2018, respectively.

Restricted cash

The Company is contingently liable under an unused letter of credit with a bank, related to the Company's facility lease. As a result, as of March 31, 2019 and December 31, 2018, the Company had restricted cash securing the letters of credit. The cash will be restricted until the termination or modification of the lease arrangement.

Accrued expenses

Accrued expenses consist of the following (in thousands):

	March 31, 2019	December 31, 2018
Payroll and employee-related costs	$ 1,586	$ 3,309
Research and development costs	3,176	2,491
Other	560	677
Total	$ 5,322	$ 6,477

3. Fair Value Measurements

The Company has certain assets recorded at fair value, which may be classified as Level 1, 2, or 3 within the fair value hierarchy:

- Level 1 - Fair values are determined utilizing prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access.
- Level 2 - Fair values are determined by utilizing quoted prices for identical or similar assets and liabilities in active markets or other market observable inputs such as interest rates, yield curves, and foreign currency spot rates.
- Level 3 - Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

The fair value hierarchy level is determined by asset and liability class based on the lowest level of significant input. During the three months ended March 31, 2019, there were no transfers between levels.

The fair value of the cash equivalents was determined through quoted prices provided by third-party pricing services.

Assets measured at fair value on a recurring basis are summarized below (in thousands):

	March 31, 2019			
	Level 1	Level 2	Level 3	Total
Cash equivalents — Money market funds	$ 192,050	$ —	$ —	$ 192,050
Total assets	$ 192,050	$ —	$ —	$ 192,050

	December 31, 2018			
	Level 1	Level 2	Level 3	Total
Cash equivalents — Money market funds	$ 210,404	$ —	$ —	$ 210,404
Total assets	$ 210,404	$ —	$ —	$ 210,404

4. Leases

We lease certain office space, laboratory space, and equipment. At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present. The Company does not recognize right-of-use assets or lease liabilities for leases determined to have a term of 12 months or less. For new and amended leases beginning in 2019 and after, the Company has elected to account for the lease and non-lease components for leases for classes of all underlying assets and allocate all of the contract consideration to the lease component only.

In September 2015, the Company entered into an operating lease for laboratory and office space at its headquarters in Cambridge, Massachusetts. The lease expires in April 2023 and contains various clauses for renewal at the Company's option and certain rent escalation clauses. The Company is also obligated to pay operating costs, including property taxes, insurance, maintenance and other operating expenses. In connection with the lease, the Company was provided tenant improvements allowance totaling approximately $2.7 million by the landlord as reimbursement for capital improvements to the facility.

As of March 31, 2019, the Company's balance sheet included operating lease liabilities and right-of-use assets of $5.1 million and $2.9 million, respectively. The difference between the account balances relates to the write-off of the previously existing ASC 840 balances, which was primarily driven by the tenant improvements allowance. Lease related financial information is summarized below (in thousands):

Operating leases	March 31, 2019
Operating lease cost	$ 230
Short-term lease cost	10
Variable lease cost	230
Total operating lease costs	$ 470

Other information	March 31, 2019
Operating cash flows used for operating leases	$ 344
Weighted average remaining lease term in years	4.2
Weighted average discount rate	8%

Year Ended December 31,	Maturity of Lease Liabilities
2019 (remaining nine months)	$ 1,059
2020	1,442
2021	1,483
2022	1,524
2023	513
Total lease payments	6,021
Less: imputed interest	(913)
Total operating lease liabilities	$ 5,108

The above table excludes approximately $0.1 million of legally binding future lease payments for leases signed but not yet commenced as of March 31, 2019.

The Company adopted ASU 2016-02 on January 1, 2019 as noted above, and as required, the following disclosure is provided for periods prior to adoption. Future minimum commitments due under operating lease agreements as of December 31, 2018 were as follows (in thousands):

Year Ended December 31,	Minimum Lease Payments
2019	$ 1,403
2020	1,442
2021	1,483
2022	1,524
2023	513
Total operating lease liabilities	$ 6,365

5. Stock-Based Compensation

The Company has stock-based compensation plans under which employees, directors and non-employees may be granted stock-based awards such as stock options, stock appreciation rights, restricted stock awards, unrestricted stock awards, restricted stock units, performance-based awards or dividend equivalent rights.

The following table provides stock-based compensation by the financial statement line item in which it is reflected (in thousands):

	Three Months Ended March 31,	
	2019	2018
Research and development	$ 1,658	$ 1,031
General and administrative	1,232	915
Total	$ 2,890	$ 1,946

During the three months ended March 31, 2019, the Company issued 1.5 million stock options with a per share weighted-average grant date fair value of $14.38. During the three months ended March 31, 2019, the maximum number of common shares to be issued upon vesting of RSUs granted is 87,000 shares.

During the three months ended March 31, 2019, 23,038 shares were net settled with an aggregate value of $0.5 million in satisfaction of tax withholdings. No such net settlement occurred during the three months ended March 31, 2018.

6. Net Loss Per Share

The Company computes basic and diluted earnings (loss) per share using a methodology that gives effect to the impact of outstanding participating securities (the “two-class method”). As the three months ended March 31, 2019 and 2018 resulted in net losses, there is no income allocation required under the two-class method or dilution attributed to weighted average shares outstanding in the calculation of diluted loss per share.

The following common stock equivalents were excluded from the computation of diluted weighted average shares outstanding as their effect would be anti-dilutive (in thousands):

	As of March 31,	
	2019	2018
Stock options	5,411	4,004
Restricted stock units	213	291
Total	5,624	4,295

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

The following discussion should be read in conjunction with our condensed consolidated financial statements and accompanying footnotes appearing elsewhere in this Quarterly Report on Form 10-Q and our audited consolidated financial statements and related footnotes included in our Annual Report on Form 10-K for the year ended December 31, 2018. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. Actual results may differ significantly from those projected in the forward-looking statements. Important factors that might cause future results to differ materially from those projected in the forward-looking statements include, but are not limited to, those set forth in Item 1A, "Risk Factors" and elsewhere in our Annual Report on Form 10-K for the year ended December 31, 2018, as supplemented by our subsequent filings with the SEC.

Overview

We are a clinical-stage biopharmaceutical company using our proprietary peptide chemistry platform to develop novel therapeutics for the treatment of serious diseases that are caused by excessive or uncontrolled activation of the complement system, a critical component of the immune system. Inappropriate activation of the complement system can quickly turn it from a beneficial defense system to an aggressor that plays a major role in immune and inflammatory diseases. The complement system, which consists of approximately 30 interacting proteins, offers a target-rich opportunity for us to leverage our proprietary peptide chemistry platform, which was pioneered by Nobel Laureate Dr. Jack Szostak and allows us to inhibit certain uncontrolled complement pathway factors involved in complement-mediated diseases. Known as our Extreme Diversity platform, this proprietary macrocyclic peptide chemistry technology allows us to produce synthetic macrocyclic peptides that combine the diversity and specificity of antibodies with the pharmacological properties of small molecules. We believe this technology will allow us to pursue challenging targets for which only monoclonal antibodies have been developed.

We are developing our lead product candidate, zilucoplan, a potent, synthetic macrocyclic peptide C5 inhibitor, formulated for convenient, self-administered, subcutaneous, or SC, injection, which is an injection into the tissue under the skin, for the treatment of various complement-mediated diseases, including generalized myasthenia gravis, or gMG, and other tissue-based, complement-mediated disorders with high unmet medical need.

Myasthenia gravis, or MG, is a rare, complement-mediated, autoimmune disease that causes weakness in the skeletal muscles. Patients with MG present with muscle weakness that characteristically becomes increasingly severe with repeated use and recovers with rest. Muscle weakness can be localized to specific muscles, such as those responsible for eye movements, but often progresses to affect a broader range, including head, limb, and respiratory muscles. This is often described as the generalized, or severe, form of the disease. We initiated a Phase 2 clinical trial with zilucoplan for gMG in the fourth quarter of 2017. In August 2018, we announced the early completion of enrollment of 44 patients in our Phase 2 trial in gMG, surpassing our original enrollment target of 36 patients. In November 2018, we announced completion of dosing of all patients, and we reported positive top-line data in December 2018. Based on feedback provided by the U.S. Food and Drug Administration, or FDA, in April 2019, we announced our plans to initiate a single, pivotal, Phase 3, randomized, double-blind, placebo-controlled trial of zilucoplan in patients with gMG. We expect to initiate the global Phase 3 clinical trial in the second half of 2019. In May 2019, we presented results from the open-label, long-term extension study, in which clinically meaningful improvements in primary and secondary endpoints were sustained in patients treated with zilucoplan at 24 weeks.

With alignment reached on a single, 12-week, pivotal Phase 3 trial, Ra Pharma has decided to prioritize gMG as the lead indication for zilucoplan as part of its goal to build a leading complement-focused neurology franchise. Leveraging the unique properties of a small peptide C5 inhibitor, the Company plans to expand development into other tissue-based, complement-mediated disorders with high unmet medical need. This effort includes the initiation of a Phase 2 study in an undisclosed neuromuscular indication in the second half of 2019. As a result, the Company has decided to postpone further clinical development of zilucoplan in paroxysmal nocturnal hemoglobinuria, or PNH. Dosing will continue in the Company's long-term extension of the Phase 2 PNH program.

In December 2018, Ra Pharma completed dosing in a Phase 1 ethno-bridging study in healthy subjects of Japanese and non-Japanese descent, enrolling 16 subjects in a multi-dose cohort and 20 subjects in a single-dose cohort. In May 2019, Ra Pharma reported positive results from the study. The pharmacokinetic, or PK, and pharmacodynamic, or PD, profile of zilucoplan was consistent and similar across both groups, supporting development of zilucoplan for the Japanese market.

We have a life cycle management plan with an extended-release program for zilucoplan and an oral, small molecule C5 inhibitor, as well as inhibitors of other complement factors for certain renal, autoimmune, and central nervous system, or CNS, diseases.

In April 2019, we presented pre-clinical data for the poly (D, L-lactic-co-glycolic acid), or PLGA, extended release, or XR, formulation of zilucoplan, in which rapid and sustained pharmacodynamic inhibition of complement C5 was achieved with once-weekly subcutaneous dosing in non-human primates, supporting once weekly or less frequent dosing. We anticipate the XR program entering human clinical studies in the first half of 2020.

In addition to our focus on developing novel therapeutics to treat complement-mediated diseases, we have validated our Extreme Diversity platform by successfully identifying and delivering orally-available cyclic peptides for a non-complement cardiovascular target with a large market opportunity in a collaboration with Merck & Co., Inc., or Merck. In December 2018, Merck paid us a development milestone as part of this collaboration.

Financial Update

Since our inception in June 2008, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, acquiring and developing our proprietary chemistry technology, identifying potential product candidates and conducting pre-clinical studies of our product candidates and a clinical trial of our lead product candidate, zilucoplan. To date, we have not generated any product revenue and have financed our operations primarily through the public offering and the private placement of our securities and revenue from our collaboration with Merck. As of March 31, 2019, we had received an aggregate of $375.3 million in net proceeds from the issuance of equity and debt securities and $20.0 million in payments in connection with our collaboration and license agreement with Merck ("Merck Agreement"). As of March 31, 2019, we had cash and cash equivalents of $191.6 million.

As of March 31, 2019, we had an accumulated deficit of $207.2 million. Our net losses were $19.0 million and $16.5 million for the three months ended March 31, 2019 and 2018, respectively. We have incurred significant net operating losses in every year since our inception and expect to continue to incur increasing net operating losses and significant expenses for the foreseeable future. Our net losses may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase significantly as we:

- continue to advance our lead program, zilucoplan, a self-administered, subcutaneous C5 inhibitor, through clinical development using convenient SC administration in gMG and other tissue-based, complement-mediated disorders with high unmet medical need;
- continue our current research programs and development activities;
- seek to identify additional research programs and additional product candidates;
- initiate pre-clinical testing and clinical trials for any product candidates we identify and develop, maintain, expand and protect our intellectual property portfolio;
- hire additional research, clinical, scientific, and commercial personnel; and
- incur additional costs associated with operating as a public company, including expanding our operational, financial and management teams.

We believe that our existing cash and cash equivalents as of March 31, 2019 will enable us to fund our operating expenses and capital expenditure requirements through at least the first quarter of 2021. We do not expect to generate revenue from product sales unless and until we successfully complete development and obtain regulatory approval for a product candidate, which we expect will take a number of years and is subject to significant uncertainty. Additionally, we believe that our cash and cash equivalents as of March 31, 2019, will be sufficient to enable us to prepare, plan, initiate and obtain top-line data for our Phase 3 clinical trial of zilucoplan in gMG and advance our other pre-clinical pipeline programs. It is also possible that we will not achieve the progress that we expect with respect to zilucoplan because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays. We will be required to obtain further funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy.

Financial Overview

Revenue

We have derived all of our revenue to date from a collaboration and license agreement with Merck ("the Merck Agreement), which we entered into in April 2013. Under the Merck Agreement, we used our proprietary drug discovery technology platform to

identify orally available cyclic peptides for non-complement targets nominated by Merck. As of March 31, 2019, we recorded $20.0 million in revenue in connection with our Merck Agreement. No payments were received from Merck during the three months ended March 31, 2019. We are also entitled to receive future aggregate milestone payments of up to $59.0 million and low-to-mid single digit percentage royalties on any future sales under the Merck Agreement. For additional information about the Merck Agreement, see Item 8, "Financial Statements and Supplementary Data" in our Annual Report on Form 10-K for the year ended December 31, 2018.

To date, we have not generated any revenue from product sales and do not expect to do so in the near future. We expect that our revenue will be less than our expenses for the foreseeable future and that we will experience increasing losses as we continue our development of, and seek regulatory approvals for, our product candidates and begin to commercialize any approved products. Our ability to generate revenue for each product candidate for which we receive regulatory approval will depend on numerous factors, including competition, commercial manufacturing capability and market acceptance of our products.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including development of our proprietary chemistry technology platform, and our pre-clinical and clinical candidates, which include:

- employee-related expenses, including salaries, benefits, and stock-based compensation expense;
- expenses incurred under agreements with contract research organizations ("CROs"), contract manufacturing organizations ("CMOs"), and independent contractors that conduct research and development, pre-clinical and clinical activities on our behalf;
- costs of purchasing lab supplies and non-capital equipment used in our pre-clinical activities and in manufacturing pre-clinical study and clinical trial materials;
- consulting, licensing and professional fees related to research and development activities; and
- facility costs, depreciation, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance and other supplies.

We expense research and development costs as incurred. We recognize costs for certain development activities, such as pre-clinical studies and clinical trials, based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors such as patient enrollment or clinical site activations for services received and efforts expended.

Research and development activities are central to our business model. We expect research and development costs to increase significantly for the foreseeable future as our current development programs progress and new programs are added.

The following table sets forth our research and development expenses related to our product candidate pipeline:

	Three Months Ended March 31,	
	2019	2018
	(in thousands)	
Zilucoplan	$ 6,635	$ 6,603
Other pipeline programs	567	823
Allocated costs	7,202	7,426
Unallocated costs	8,080	5,986
Total	$ 15,282	$ 13,412

The expenses allocated to our product pipeline in the table above relate to CRO and CMO costs associated with our pre-clinical studies and clinical trials. We do not allocate compensation, benefits and other employee-related expenses, costs related to facilities, depreciation, share-based compensation, research and development support services, laboratory supplies and certain other costs directly to programs.

Because of the numerous risks and uncertainties associated with product development, we cannot determine with certainty the duration and completion costs of the current or future pre-clinical studies, clinical trials, pharmaceutical development, and chemical, manufacturing and controls or if, when, or to what extent we will generate revenues from the commercialization and sale of our product candidates. We may never succeed in achieving regulatory approval for our product candidates. The duration, costs, and

timing of pre-clinical studies and clinical trials and development of our product candidates will depend on a variety of factors, including:

- successful completion of pre-clinical studies and Investigational New Drug-enabling studies;
- successful enrollment in, and completion of, clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and non-patent exclusivity;
- launching commercial sales of the product, if and when approved, whether alone or in collaboration with others;
- acceptance of the product, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies and treatment options;
- a continued acceptable safety profile following approval;
- enforcing and defending intellectual property and proprietary rights and claims; and
- achieving desirable medicinal properties for the intended indications.

A change in the outcome of any of these factors could mean a significant change in the costs and timing associated with the development of our current and future pre-clinical and clinical product candidates. For example, if the Food and Drug Administration ("FDA"), or another regulatory authority were to require us to conduct clinical trials beyond those that we currently anticipate will be required for the completion of clinical development, or if we experience significant delays in execution of or enrollment in any of our pre-clinical studies or clinical trials, we could be required to expend significant additional financial resources and time on the completion of pre-clinical and clinical development. We expect our research and development expenses to increase for the foreseeable future as we continue the development of product candidates.

General and Administrative Expenses

General and administrative expenses consist primarily of employee related expenses, including salaries, benefits, and stock-based compensation, for personnel in executive, finance, facility operations and administrative functions. Other significant costs include facility costs not otherwise included in research and development expenses, legal fees relating to patent and corporate matters, and fees for accounting, tax and consulting services.

We anticipate that our general and administrative expenses will increase in the future to support continued research and development activities, and potential commercialization of our product candidates. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside consultants, lawyers and accountants, among other expenses.

Other Income (Expense), Net

Other income (expense), net primarily consists of interest income earned on our cash and cash equivalents.

Critical Accounting Policies and Significant Judgments and Estimates

Our discussion and analysis of our liquidity, capital resources and results of operations is based upon our condensed consolidated financial statements prepared in accordance with generally accepted accounting principles in the U.S. The preparation of these financial statements requires us to make certain estimates and assumptions that may affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses during the reported periods and related disclosures. These estimates and assumptions are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates could occur in the future. We base our estimates on our historical experience, trends in the industry and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from our estimates under different assumptions or conditions.

There have been no material changes to our critical accounting policies from those described in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2018. We believe that our application of the following accounting policies, each of which require significant judgments and estimates on the part of management, and each of which is described in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2018, is the most critical to aid in fully understanding and evaluating our reported financial results: (1) revenue recognition, (2) research and development expenses, and (3) stock-based compensation.

Results of Operations

Three Months Ended March 31, 2019 and 2018

The following table summarizes our results of operations:

	Three Months Ended March 31,			
	2019	2018	$ Change	% Change
	(in thousands, except percentages)			
Operating expenses:				
Research and development	$ 15,282	$ 13,412	$ 1,870	13.9%
General and administrative	4,807	3,312	1,495	45.1%
Total operating expenses	20,089	16,724	3,365	20.1%
Loss from operations	(20,089)	(16,724)	(3,365)	20.1%
Other income, net	1,050	226	824	364.6%
Net loss	$ (19,039)	$ (16,498)	$ (2,541)	15.4%

Research and Development Expenses

Research and development expenses increased by $1.9 million to $15.3 million for the three months ended March 31, 2019, from $13.4 million for the three months ended March 31, 2018. This increase was attributable to: a $0.7 million increase in compensation, benefits and other employee-related expenses due to 2019 salary increases and higher average headcount to support our increased research and development activities; a $0.6 million increase in non-cash stock-based compensation; a $0.4 million increase in consulting and professional fees; and a $0.4 million increase in other expenses primarily relating to database licenses; partially offset by a $0.2 million decrease in CRO and CMO expenses for our non-clinical studies and clinical trials, primarily relating to our zilucoplan program.

General and Administrative Expenses

General and administrative expenses increased by $1.5 million to $4.8 million for the three months ended March 31, 2019, from $3.3 million for the three months ended March 31, 2018. This increase was attributable to: a $0.7 million increase in compensation, benefits, non-cash stock-based compensation and other employee-related expenses due to 2019 salary increases and higher average headcount to support our increased activities; a $0.4 million increase in consulting and professional fees related to pre-commercialization activities; a $0.2 million increase in legal, audit and insurance costs; and a $0.2 million increase in other expenses primarily relating to patent costs.

Other Income, Net

Other income, net increased by $0.8 million to $1.0 million in other income, net during the three months ended March 31, 2019, from $0.2 million in other income, net for the three months ended March 31, 2018. This increase was due primarily to a $0.8 million increase in interest income.

Net Loss

Net loss increased by approximately $2.5 million to $19.0 million for the three months ended March 31, 2019, from $16.5 million for the three months ended March 31, 2018. The increase in net loss was primarily due to the increases in research and development and general and administrative expenses discussed above, partially offset by the increase in interest income discussed above.

Liquidity and Capital Resources

Overview

We have funded our operations from inception through March 31, 2019 primarily through the public offerings and the private placement of our securities and revenue from our collaboration with Merck. As of March 31, 2019, we had received an aggregate of $375.3 million in net proceeds from the issuance of equity and debt securities and $20.0 million in payments in connection with our collaboration and license agreement with Merck. As of March 31, 2019, we had cash and cash equivalents of $191.6 million.

Cash Flows

The following table provides information regarding our cash flows:

	Three Months Ended March 31,	
	2019	2018
	(in thousands)	
Net cash provided by (used in):		
Operating activities	$ (18,022)	$ (15,517)
Investing activities	(195)	(29)
Financing activities	42	54,287
Net increase (decrease) in cash	$ (18,175)	$ 38,741

Net Cash Used in Operating Activities

Cash flows used in operating activities represent the cash receipts and disbursements related to all of our activities other than investing and financing activities. Operating cash flow is derived by adjusting our net loss for (1) non-cash operating items such as depreciation and amortization and stock-based compensation as well as (2) changes in operating assets and liabilities, which reflect timing differences between the receipt and payment of cash associated with transactions and when they are recognized in our results of operations.

Net cash used in operating activities was $18.0 million for the three months ended March 31, 2019 compared to $15.5 million for the three months ended March 31, 2018. The increase in net cash used in operations was attributable primarily to: a $2.5 million increase in our net loss as a result of higher operating expenses, primarily in connection with our pre-clinical studies and clinical trials related to our zilucoplan program and other research and development pipeline programs; a net decrease in operating liabilities; partially offset by a net decrease in operating assets and higher non-cash expenses, including stock-based compensation and depreciation.

Net Cash Used in Investing Activities

Net cash used in investing activities was $0.2 million for the three months ended March 31, 2019 compared to less than $0.1 million for the three months ended March 31, 2018. The increase in cash used in investing activities was due primarily to an increase in purchases of property and equipment.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was less than $0.1 million for the three months ended March 31, 2019 compared to $54.3 million for the three months ended March 31, 2018. The decrease in cash provided by financing activities was due primarily to the $54.5 million in proceeds raised in the comparative period from the February 2018 follow-on offering; partially offset by the payment of issuance costs of $0.2 million.

Funding Requirements

We expect our expenses to increase in connection with our ongoing development activities, particularly as we advance the Phase 3 clinical program for zilucoplan, continue clinical trials of zilucoplan in additional indications advance the development of our pipeline programs, initiate new research and pre-clinical development efforts and seek marketing approval for any product candidates that we successfully develop. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to establishing sales, marketing, distribution and other commercial infrastructure to commercialize such products. Furthermore, we anticipate increased costs associated with being and operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts.

We believe that our existing cash and cash equivalents as of March 31, 2019 will enable us to fund our operating expenses and capital expenditure requirements through at least the first quarter of 2021. We have based our projections of operating capital requirements on assumptions that may prove to be incorrect and we may use all of our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with the development and commercialization of zilucoplan and the research, development and commercialization of other potential product candidates, we are unable to estimate the exact amount of our operating capital requirements. Our future capital requirements will depend on many factors, including:

- the scope, progress, timing, costs and results of clinical trials of, and research and pre-clinical development efforts for, our current and future product candidates;
- our ability to enter into and the terms and timing of any collaborations, licensing agreements or other arrangements;
- the number of future product candidates that we pursue and their development requirements;
- the outcome, timing and costs of seeking regulatory approvals;
- the costs of commercialization activities for any of our product candidates that receive marketing approval to the extent such costs are not the responsibility of any future collaborators, including the costs and timing of establishing product sales, marketing, distribution and manufacturing capabilities;
- subject to receipt of marketing approval, revenue, if any, received from commercial sales of our current and future product candidates;

- our headcount growth and associated costs as we expand our research and development and establish a commercial infrastructure; and
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against intellectual property related claims.

Identifying potential product candidates and conducting pre-clinical studies and clinical trials is a time-consuming, expensive and uncertain process that takes many years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of a common stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

If we raise funds through additional collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Contractual Commitments and Obligations

There have been no material changes to our contractual obligations and commitments during the three months ended March 31, 2019 from those included in our Annual Report on Form 10-K for the year ended December 31, 2018.

Off-Balance Sheet Arrangements

As of March 31, 2019, we did not have any significant off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K promulgated under the Exchange Act.

Recent Accounting Pronouncements

For a discussion of recently adopted or issued accounting pronouncements please refer to Note 1, “Nature of Business and Basis of Presentation” to our condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

We are exposed to market risk related to changes in interest rates. As of March 31, 2019, we had cash and cash equivalents of $191.6 million, consisting primarily of money market funds. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our cash equivalents are in held in short-term money market funds. Due to short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 100 basis point change in interest rates would not have a material effect on the fair market value of our portfolio.

Foreign Currency Risk

We are also exposed to market risk related to changes in foreign currency exchange rates. From time to time, we engage contract research organizations, or CROs, and investigational sites globally. We are therefore subject to fluctuations in foreign currency rates in connection with these engagements. We do not currently hedge our foreign currency exchange rate risk. As of March 31, 2019, we had minimal or no assets or liabilities denominated in foreign currencies.

Effects of Inflation

We do not believe that inflation and changing prices during the three months ended March 31, 2019 had a significant impact on our results of operations or financial condition.

Item 4. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Quarterly Report on Form 10-Q. Management recognizes that any disclosure controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives. Our disclosure controls and procedures have been designed to provide reasonable assurance of achieving their objectives. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of March 31, 2019.

(b) Changes in Internal Controls

There were no changes in the Company's internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 or 15d-15 that occurred during the quarter ended March 31, 2019 that materially affected, or were reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1A. Risk Factors

In addition to the other information set forth in this Quarterly Report on Form 10-Q, careful consideration should be given to the risk factors discussed in Item 1A, "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, which could materially affect our business, financial condition, and/or future results. The risks described in our Annual Report on Form 10-K are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition, and/or operating results. There have been no material changes to the risk factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2018.

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

Recent Sales of Unregistered Securities

None.

Use of Proceeds

In October 2016, we issued and sold 7,049,230 shares of our common stock and, in November 2016, pursuant to the underwriters' option to purchase additional shares, we issued and sold 1,057,385 shares of common stock to the underwriters of our initial public offering, or IPO, at a public offering price of $13.00 per share, for aggregate gross proceeds of $105.4 million. All of the shares issued and sold in the IPO were registered under the Securities Act pursuant to a Registration Statement on Form S-1 (File No. 333- 213917), which was declared effective by the SEC on October 25, 2016. Credit Suisse Securities (USA) LLC, Jeffries LLC and BMO Capital Markets Corp. acted as joint book-running managers of the offering and as representatives of the underwriters.

The net proceeds to us, after deducting underwriting discounts and commissions of $7.4 million and offering expenses of approximately $2.4 million, were approximately $95.6 million.

As of March 31, 2019, we fully applied the net proceeds from our IPO.

No offering expenses were paid directly or indirectly to any of our directors or officers, or their associates, or persons owning 10.0% or more of any class of our equity securities or to any other affiliates.

There was no material change in the use of proceeds from our IPO as described in our final prospectus filed with the SEC pursuant to Rule 424(b) of the Securities Act on October 26, 2016.

Item 6. Exhibits

3.1	Third Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 333-213917) filed November 29, 2016).
3.2	Amended and Restated By-laws of the Registrant, as currently in effect (incorporated by reference to Exhibit 3.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 333-213917) filed November 29, 2016).
31.1*	Certification of Chief Executive Officer pursuant to Rules 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer pursuant to Rules 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certifications pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002, by Douglas A. Treco, Ph.D., President and Chief Executive Officer of the Company, and David C. Lubner, Executive Vice President and Chief Financial Officer of the Company.
101.INS	Extensible Business Reporting Language (XBRL) Instance Document.
101.SCH	XBRL Schema Document.
101.CAL	XBRL Calculation Linkbase Document.
101.LAB	XBRL Labels Linkbase Document.
101.PRE	XBRL Presentation Linkbase Document.
101.DEF	XBRL Definition Linkbase Document.

* Filed herewith.
** Furnished herewith.

SIGNATURES

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

Dated: May 9, 2019

RA PHARMACEUTICALS, INC.

By: /s/ Douglas A. Treco
Douglas A. Treco, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

By: /s/ David C. Lubner
David C. Lubner
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 31.1

CERTIFICATION

I, Douglas A. Treco, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ra Pharmaceuticals, 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 officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Date: May 9, 2019

/s/ Douglas A. Treco
Douglas A. Treco, Ph.D.
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, David C. Lubner, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ra Pharmaceuticals, 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 officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

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

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

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

Dated: May 9, 2019

/s/ David C. Lubner
David C. Lubner
Executive Vice President and Chief Financial Officer

Exhibit 32.1

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

In connection with this Quarterly Report on Form 10-Q of Ra Pharmaceuticals, Inc. (the "Company") for the period ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned, Douglas A. Treco, Ph.D., President and Chief Executive Officer of the Company, and David C. Lubner, Executive Vice President and Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. (section) 1350, as adopted pursuant to (section) 906 of the Sarbanes-Oxley Act of 2002, that to the best of his 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.

Dated: May 9, 2019

/s/ Douglas A. Treco
Douglas A. Treco, Ph.D.
President and Chief Executive Officer

/s/ David C. Lubner
David C. Lubner
Executive Vice President and Chief Financial Officer