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, 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 CambridgePark 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)

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

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 "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 ☐ 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 ☒

The number of shares outstanding of the registrant's common stock as of October 31, 2019 was 47,143,469.

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, statements regarding the structure, timing and completion of the proposed acquisition of the Company by UCB S.A ("UCB"); any anticipated effects of the announcement, pendency or completion of the proposed acquisition on the value of our stock; our or UCB's ability to obtain any required regulatory approvals in connection with the proposed acquisition; expenses related to the proposed acquisition by UCB and any potential future costs; 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 agreement with Merck & Co., Inc. and our license agreement with Camurus AB, 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 risk that the proposed acquisition by UCB may not be consummated at all or in the anticipated timeframe;
- failure to consummate the proposed acquisition by UCB could negatively impact our business, financial condition, results of operations or our stock price;
- the initiation, timing, progress and results of our research and development programs, including a Phase 3 clinical program evaluating zilucoplan for the treatment of generalized myasthenia gravis and a Phase 2 trial of zilucoplan for the treatment of immune-mediated necrotizing myopathy, and future pre-clinical and clinical studies;
- the risk that topline data from our Phase 3 and Phase 2 clinical programs 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 our existing or establish future collaborations and/or licenses;
- 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 (Unaudited)

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

	September 30, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 292,602	$ 209,822
Prepaid expenses and other current assets	7,578	2,585
Total current assets	300,180	212,407
Property and equipment, net	4,524	5,165
Operating lease right-of-use assets, net	2,600	—
Restricted cash	1,334	1,334
Other assets	300	314
Total assets	$ 308,938	$ 219,220
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 327	$ 3,245
Accrued expenses	10,352	6,477
Operating lease liabilities	987	—
Deferred rent	—	479
Total current liabilities	11,666	10,201
Operating lease liabilities, net of current portion	3,494	—
Deferred rent, net of current portion	—	1,880
Deferred tax liabilities	21	21
Total liabilities	15,181	12,102
Commitments and contingencies (Note 6)		
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; 47,096 and 42,072 shares issued and outstanding as of September 30, 2019 and December 31, 2018, respectively	47	42
Additional paid-in capital	547,778	395,233
Accumulated deficit	(254,068)	(188,157)
Total stockholders' equity	293,757	207,118
Total liabilities and stockholders' equity	$ 308,938	$ 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 September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Revenue	$ 3,000	$ —	$ 3,000	$ —
Operating expenses:				
Research and development	(23,244)	(13,375)	(56,439)	$ (39,092)
General and administrative	(5,972)	(3,504)	(15,712)	(10,637)
Total operating expenses	(29,216)	(16,879)	(72,151)	(49,729)
Loss from operations	(26,216)	(16,879)	(69,151)	(49,729)
Other income, net	1,241	375	3,240	981
Net loss	$ (24,975)	$ (16,504)	$ (65,911)	$ (48,748)
Net loss per common share — basic and diluted	$ (0.55)	$ (0.51)	$ (1.52)	$ (1.60)
Weighted average number of common shares outstanding — basic and diluted	45,766	32,349	43,418	30,652

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		Total Stockholders'
	Shares	Amount	Capital	Accumulated Deficit	Equity
January 1, 2019	**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 upon vesting of restricted stock and under the employee purchase plan, 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**
Exercise of common stock options	96	—	748	—	748
Stock-based compensation	—	—	3,445	—	3,445
Shares issued upon vesting of restricted stock and under the employee purchase plan, net of tax withholdings	23	—	139	—	139
Net loss	—	—	—	(21,897)	(21,897)
June 30, 2019	**42,373**	**42**	**402,740**	**(229,093)**	**173,689**
Issuance of common stock from public offerings, net of underwriter discounts and issuance costs	4,600	5	140,228	—	140,233
Exercise of common stock options	123	—	997	—	997
Stock-based compensation	—	—	3,813	—	3,813
Net loss	—	—	—	(24,975)	(24,975)
September 30, 2019	**47,096**	**$ 47**	**$ 547,778**	**$ (254,068)**	**$ 293,757**

	Common Stock		Additional Paid-In		Total Stockholders'
	Shares	Amount	Capital	Accumulated Deficit	Equity
January 1, 2018	**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
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**
Exercise of common stock options	50	—	179	—	179
Stock-based compensation	—	—	1,812	—	1,812
Net loss	—	—	—	(15,746)	(15,746)
June 30, 2018	**32,336**	**32**	**250,346**	**(155,458)**	**94,920**
Exercise of common stock options	52	—	248	—	248
Stock-based compensation	—	—	1,794	—	1,794
Net loss	—	—	—	(16,504)	(16,504)
September 30, 2018	**32,388**	**$ 32**	**$ 252,388**	**$ (171,962)**	**$ 80,458**

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	Nine Months Ended September 30,	
	2019	**2018**
Cash flows from operating activities		
Net loss	$ (65,911)	$ (48,748)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,606	1,186
Stock-based compensation	10,148	5,553
Other, net	74	—
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(4,959)	110
Accounts payable and accrued expenses	1,158	(757)
Operating lease liabilities	(866)	—
Other, net	—	(216)
Net cash used in operating activities	(58,750)	(42,872)
Cash flows from investing activities		
Purchase of property and equipment	(629)	(915)
Net cash used in investing activities	(629)	(915)
Cash flows from financing activities		
Proceeds from common stock offering, net of underwriter discounts	140,530	54,482
Payment of common stock offering costs	(540)	(371)
Payments related to restricted stock units vesting	(583)	—
Proceeds from exercises of stock options and ESPP shares	2,752	426
Other, net	—	(72)
Net cash provided by financing activities	142,159	54,465
Net increase in cash, cash equivalents and restricted cash	82,780	10,678
Cash, cash equivalents and restricted cash, beginning of period	211,156	71,715
Cash, cash equivalents and restricted cash, end of period	$ 293,936	$ 82,393
Reconciliation of cash, cash equivalents and restricted cash:		
Cash, cash equivalents and restricted cash, end of period	$ 293,936	$ 82,393
Less restricted cash	(1,334)	(1,334)
Cash and cash equivalents, end of period	$ 292,602	$ 81,059

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 byRa 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''), immune-mediated necrotizing myopathy ("IMNM"), amyotrophic lateral sclerosis ("ALS"), and other tissue-based complement-mediated disorders with high unmet medical need. 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 $254.1 million as of September 30, 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 September 30, 2019, the Company had cash and cash equivalents of $292.6 million, which is expected to fund operating expenses and capital expenditure requirements through at least the end of 2021.

Proposed Acquisition by UCB

On October 9, 2019, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with UCB S.A ("UCB"). See Note 2, "Merger Agreement" for a description of the transactions contemplated by the Merger Agreement.

Public Offerings

In July 2019, the Company completed a follow-on public offering of 4,600,000 shares of common stock, including the full exercise of the underwriters' option to purchase an additional 600,000 shares, at $32.50 per share and received aggregate net proceeds of $140.2 million, after deducting $9.0 million of underwriting discounts and commissions and approximately $0.3 million of offering expenses.

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 September 30, 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* ("ASC 840").

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.

Research and Development Expenses

The Company expenses research and development costs to operations when incurred in accordance with ASC, Topic 730,*Research and Development*. The Company defers and capitalizes nonrefundable advance payments made by the Company for research and development activities until the related goods are received or the related services are performed.

Research and development expenses comprise costs incurred in performing research and development activities, including salaries, benefits and other employee-related expenses, share-based compensation expense, laboratory supplies and other direct expenses, facilities cost, overhead costs, license agreement fees with no alternative future use, third-party contract costs relating to pre-clinical studies and clinical trial activities and related contract manufacturing expenses, and other outside costs.

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 and established ASC 842. 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,* ("ASU 2018-07"). 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. Merger Agreement

On October 9, 2019, the Company entered into the Merger Agreement with UCB. The Merger Agreement provides for the merger of a wholly owned subsidiary of UCB (the "Merger Sub") with and into the Company (the "Acquisition"), with the Company surviving the merger as a wholly owned subsidiary of UCB. At the effective time of the Acquisition (the "Effective Time"), each share of common stock of the Company outstanding immediately prior to the Effective Time (other than shares (i) owned by the Company and its subsidiaries, UCB or Merger Sub or (ii) held by stockholders who are entitled to, but did not vote in favor of the Acquisition (or consent thereto in writing) and are entitled to demand and properly demand appraisal of such shares pursuant to Delaware law) will be automatically converted into the right to receive $48.00 in cash per share, without interest (the "Merger Consideration"). The total transaction value, net of the Company's cash, is approximately $2.1 billion.

The closing of the Acquisition is subject to the adoption of the Merger Agreement by the affirmative vote of a majority of the outstanding shares of common stock of the Company entitled to vote thereon. The closing of the Acquisition is also subject to various customary conditions, including the expiration or termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, the receipt of all other required antitrust approvals, the absence of any governmental order prohibiting the consummation of the transactions contemplated by the Merger Agreement, the accuracy of the representations and warranties contained in the Merger Agreement (subject to certain materiality qualifications), compliance with the covenants and agreements in the Merger Agreement in all material respects and the absence of any continuing material adverse effect on the Company. The Acquisition is not subject to any financing condition.

The Company has made customary representations, warranties and covenants in the Merger Agreement. The Merger Agreement further provides that, upon termination of the Merger Agreement under specified circumstances, including termination of the Merger Agreement by UCB as a result of an adverse change in the recommendation of the Company's board of directors and termination of the Merger Agreement by the Company to enter into an agreement in respect of a competing acquisition proposal, the Company may be required to pay UCB a termination fee of $75.0 million in cash.

3. Supplemental Balance Sheet Information

Property and equipment, net

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

	September 30, 2019	December 31, 2018
Computer equipment and software	$ 63	$ 53
Furniture, fixtures and office equipment	390	390
Laboratory equipment	6,619	6,149
Leasehold improvements	3,753	3,755
	10,825	10,347
Accumulated depreciation	(6,301)	(5,182)
Property and equipment, net	$ 4,524	$ 5,165

Depreciation expense was $0.4 million for each of the three months ended September 30, 2019 and 2018, respectively, and $1.2 million and $1.1 million for the nine months ended September 30, 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 September 30, 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):

	September 30, 2019	December 31, 2018
Payroll and employee-related costs	$ 3,228	$ 3,309
Research and development costs	5,941	2,491
Other	1,183	677
Total	$ 10,352	$ 6,477

4. 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 and nine months ended September 30, 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):

	September 30, 2019			
	Level 1	Level 2	Level 3	Total
Cash equivalents — Money market funds	$ 294,570	$ —	$ —	$ 294,570
Total assets	$ 294,570	$ —	$ —	$ 294,570

	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

5. Leases

The Company leases 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.

In September 2019, the Company entered into an operating sub-lease for additional office space in Cambridge, Massachusetts. The sub-lease is expected to commence on December 1, 2019 and expires in June 2022. The Company is obligated to pay an upfront security deposit in the amount of $82 thousand. Total minimum future lease payments for the lease of $1.3 million have not commenced as of September 30, 2019, as the Company does not yet control the underlying asset, and are not included in the unaudited condensed consolidated financial statements. Beginning January 1, 2021, the Company will become obligated to pay additional operating costs and property taxes for any increases to any amount above the previous base year amount.

As of September 30, 2019, the Company's balance sheet included operating lease liabilities and right-of-use assets of $4.5 million and $2.6 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	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Operating lease cost	$ 230	$ 689
Short-term lease cost	37	81
Variable lease cost	230	687
Total operating lease costs	$ 497	$ 1,457

Other information	September 30, 2019
Operating cash flows used for operating leases	$ 1,167
Weighted average remaining lease term in years	3.58
Weighted average discount rate	8.0%

Year Ended December 31,	Maturity of Lease Liabilities
2019 (remaining three months)	$ 236
2020	1,442
2021	1,483
2022	1,524
2023	513
Total lease payments	5,198
Less: imputed interest	(717)
Total operating lease liabilities	$ 4,481

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

6. Commitments and Contingencies

License Agreements

In July 2019, the Company entered into an exclusive worldwide license agreement with Camurus AB ("Camurus") that allows for the use of Camurus' proprietary FluidCrystal® (FC) drug-delivery technology to develop, manufacture, and commercialize a long-acting formulation of zilucoplan, and up to three additional compounds, for the treatment of multiple complement-mediated disorders. Due to the early stage of the assets licensed, the Company recorded expense for the upfront payment of $2.0 million during the third quarter 2019. As of September 30, 2019, the Company could be required to pay up to $14.5 million in additional development milestones and other license payments, up to $55 million in sales milestones, and tiered single digit royalty payments on commercial sales under the agreement with Camurus.

7. Revenue Recognition

In April 2013, the Company entered into a multi-target collaboration and license agreement with Merck to use its proprietary drug discovery technology platform to identify orally available cyclic peptides for non-complement program targets nominated by Merck and provide specific research and development services. Under the contract, the Company granted Merck licenses under certain of its intellectual property rights to manufacture, develop, and commercialize compounds and products directed to selected program targets.

At the signing of the Merck Agreement, Merck paid an upfront nonrefundable, technology license fee of $4.5 million. In addition, the Merck Agreement provides for reimbursement of research and development services provided by the Company and includes low to mid-single digit percentage royalties on future sales, if any, and milestone payments that could total up to $65.0 million; including pre-clinical and clinical milestones of $20.0 million, $9.0 million of which have been received to date; regulatory milestones of $19.0 million; and commercial milestones of $26.0 million.

The Company assessed this arrangement in accordance with ASC 606 and concluded that the contract counterparty, Merck, is a customer. The Company has identified the following promised goods and services in connection with the Merck Agreement: (1) rights to use the Company's technology platform for each program target, and (2) the research and development services provided during the research term, including participation on the joint steering committee. The Company determined that the license to the Company's early stage intellectual property is not distinct from the research and development services and accounted for all promises as a single combined performance obligation. The primary factor considered in this determination included the expectation that the research and development services will involve significant further development of the initial intellectual property licensed to Merck.

At execution and the end of each reporting period, the transaction price allocated to the single performance obligation included the $4.5 million technology license fee received and the payments for research and development services expected to be received by the Company. At execution, none of the pre-clinical, clinical or regulatory milestones have been included in the transaction price, as all milestone amounts were fully constrained. As part of its evaluation of the constraint, the Company considered numerous factors, including that the receipt of the milestones is outside the control of the Company and contingent upon success of future pre-clinical and clinical studies and Merck's efforts. The $0.5 million, $3.0 million, and $2.5 million pre-clinical milestone payments received to date were added to the transaction price in the fourth quarter of 2013, the second quarter of 2016, and the fourth quarter of 2018, respectively, when they were considered probable of being reached. At the end of each reporting period, the Company continues to assess the probability of achievement of the remaining clinical or regulatory milestones and any related constraint and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments to the transaction price will be recorded as revenue in the period of adjustment.

Any consideration related to the sales-based milestones (including royalties) will be recognized when the related sales occur as they were determined to relate predominantly to the licenses granted to Merck and therefore were excluded from the transaction price.

During the three and nine months ended September 30, 2019, the Company recognized $3.0 million in revenue for the achievement of a clinical milestone under the Merck Agreement as it was considered probable of being reached. There was no revenue earned in the comparative three-month period in 2018.

8. Stock-Based Compensation

The Company has stock-based compensation plans under which employees, directors and consultants 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 September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Research and development	$ 2,109	$ 980	$ 5,669	$ 2,837
General and administrative	1,704	815	4,479	2,716
Total	$ 3,813	$ 1,795	$ 10,148	$ 5,553

During the nine months ended September 30, 2019, the Company issued 1.9 million stock options with a per share weighted-average grant date fair value of $15.08. During the nine months ended September 30, 2019, 102,239 restricted stock units vested.

During the three and nine months ended September 30, 2019, there were no shares and 27,544 shares, respectively, otherwise issuable upon the settlement of awards surrendered in satisfaction of tax withholdings with an aggregate value of nil and $0.6 million, respectively. No such net settlement occurred during the three and nine months ended September 30, 2018.

9. Net Loss Per Share

The Company computes basic and diluted net loss per share using a methodology that gives effect to the impact of outstanding participating securities (the "two-class method"). As the three and nine months ended September 30, 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 September 30,	
	2019	2018
Stock options	5,526	3,996
Restricted stock units	196	307
Total	5,722	4,303

10. Subsequent Events

On November 1, 2019, a lawsuit entitled Elaine Wang v. Ra Pharmaceuticals, Inc., et al., was filed in the United States District Court for the District of Delaware against the Company and the members of the Company's board of directors. On November 5, 2019, a putative class action lawsuit entitled Earl M. Wheby, Jr. v. Ra Pharmaceuticals, Inc., et al., was filed in the United States District Court for the District of Delaware against the Company and the members of the Company's board of directors. The lawsuits allege that the proxy statement filed by the Company on November 1, 2019 with the SEC in connection with the Acquisition omits material information with respect to the transactions contemplated by the Merger Agreement, rendering it false and misleading in violation of Sections 14(a) and 20(a) of the Exchange Act. The plaintiffs seek, among other things, injunctive relief, rescission, declaratory relief and unspecified monetary damages. The Company believes these lawsuits are wholly without merit, and intends to vigorously defend against the claims.

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 Securities and Exchange Commission, or 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 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, immune-mediated necrotizing myopathy, or IMNM, amyotrophic lateral sclerosis, or ALS, and other tissue-based, complement-mediated disorders with high unmet medical need.

MG, is a chronic, 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. In August 2018, we announced the early completion of enrollment of 44 patients in our Phase 2 trial of zilucoplan 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. In May 2019, we presented results from the open-label, long-term extension study, in which statistically significant and clinically meaningful improvements in primary and secondary endpoints were sustained in patients treated with zilucoplan at 24 weeks. In September 2019, the FDA granted Orphan Drug Designation to zilucoplan for the treatment of MG. In October 2019, Ra Pharma announced the initiation of dosing in a single, pivotal, randomized, double-blind, placebo-controlled Phase 3 trial evaluating zilucoplan for the treatment of gMG, or the RAISE study. The trial, which incorporates feedback from the U.S. Food and Drug Administration (FDA), the European Medicines Agency (EMA), and Japan's Pharmaceuticals and Medical Devices Agency (PMDA), is designed to evaluate the efficacy of a once-daily, subcutaneously (SC) self-administered dose of 0.3 mg/kg of zilucoplan versus placebo. Top-line results from the RAISE study are expected in early 2021.

IMNM is an autoimmune myopathy characterized by skeletal muscle necrosis, severe proximal limb weakness, and elevated creatine kinase, or CK, levels. IMNM is categorized into two subtypes defined by the presence of distinct autoantibodies against 3-hydroxy-3-methylglutaryl-coenzyme A reductase, or signal recognition particle. In IMNM, these autoantibodies drive complement-mediated necrosis of muscle fibers, resulting in severe, progressive, and debilitating proximal muscle weakness. In June 2019, we announced the FDA's clearance of our Investigational New Drug, or IND, application for zilucoplan for the treatment of IMNM. We expect to initiate a Phase 2 clinical trial evaluating zilucoplan for the treatment of IMNM by year-end 2019.

ALS is the most prevalent adult-onset progressive motor neuron disease, causing the progressive degeneration of motor neurons, resulting in progressive muscle weakness and atrophy that can eventually lead to partial or total paralysis. In September 2019, zilucoplan was selected as one of the first clinical candidates to be evaluated in a pioneering platform trial for ALS, led by the Sean M. Healey & AMG Center for ALS at Mass General. The Healey Center has agreed to provide funding for the execution of the platform trial to accelerate the development of effective treatments for patients with ALS.

We have a life-cycle management plan with an extended release, or XR, 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. Our XR program includes two formulations: the poly (D,L-lactic-co-glycolic acid), or PLGA, XR formulation of zilucoplan and the FluidCrystal®, or FC, XR formulation of zilucoplan. We anticipate the XR program entering human clinical studies in the first half of 2020.

In April 2019, we presented pre-clinical data for the PLGA 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. We believe these data support the possibility of once weekly or less frequent dosing for zilucoplan.

In July 2019, we entered into an exclusive worldwide license agreement for the use of Camurus AB's proprietary FC technology to develop, manufacture, and commercialize a long-acting formulation of zilucoplan. In July 2019, we reported pre-clinical data for the FC XR formulation of zilucoplan, in which non-human primates receiving a single dose of the FC XR formulation of zilucoplan rapidly achieved and maintained target levels of complement inhibition for at least seven days without the need for intravenous loading.

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 August 2019, we earned a clinical development milestone from Merck associated with the dosing of the first patient in a Phase 1 clinical trial.

Proposed Acquisition by UCB

On October 9, 2019, we entered into an Agreement and Plan of Merger, or the Merger Agreement, with UCB S.A., or UCB, pursuant to which the Company will survive the proposed acquisition as an indirect wholly owned subsidiary of UCB. Under the terms of the Merger Agreement, our stockholders will receive $48.00 in cash for each share of common stock held at closing. The total transaction value, net of our cash, is approximately $2.1 billion. The boards of directors of both companies have unanimously approved the transaction, which remains subject to approval by our stockholders and to obtaining antitrust clearance and other customary closing conditions. The transaction is expected to close by the end of the first quarter of 2020. For additional discussion, please refer to Note 2, "Merger Agreement" to our condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

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 candidate and clinical trials of our lead product candidate, zilucoplan. To date, we have not generated any product revenue and have financed our operations primarily through public offerings and the private placement of our securities and revenue from our collaboration with Merck. As of September 30, 2019, we had received an aggregate of $515.5 million in net proceeds from the issuance of equity and debt securities and $23.0 million in payments in connection with our collaboration and license agreement with Merck, or the Merck Agreement.

In July 2019, we completed a follow-on public offering of 4,600,000 shares of our common stock, including the full exercise of the underwriters' over-allotment option to purchase an additional 600,000 shares, at $32.50 per share and received aggregate net proceeds of $140.2 million, after deducting $9.0 million of underwriting discounts and commissions and approximately $0.3 million of offering expenses.

As of September 30, 2019, we had an accumulated deficit of $254.1 million. Our net losses were $65.9 million and $48.7 million for the nine months ended September 30, 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 in gMG, IMNM, ALS, 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;
- incur additional costs associated with operating as a public company, including expanding our operational, financial and management teams; and
- incur additional costs associated with 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.

As of September 30, 2019, we had cash and cash equivalents of $292.6 million, which is expected to fund operating expenses and capital expenditure requirements through at least the end 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 September 30, 2019, will be sufficient to enable us to fund pre-commercialization activities for zilucoplan, the XR formulations of zilucoplan, and the clinical development of our 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, 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 September 30, 2019, we recorded $23.0 million in revenue in connection with our Merck Agreement. We received a $3.0 million clinical development milestone payment for the dosing of the first

patient in a Phase 1 clinical trial from Merck during the three and nine months ended September 30, 2019. We are also entitled to receive future aggregate milestone payments of up to $56.0 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;
- license agreement fees with no alternative future use;
- 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 September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in thousands)			
Zilucoplan	$ 10,600	$ 5,450	$ 24,752	$ 17,277
Other pipeline programs	1,700	2,045	4,245	4,167
Allocated costs	12,300	7,495	28,997	21,444
Unallocated costs	10,944	5,880	27,442	17,648
Total	$ 23,244	$ 13,375	$ 56,439	$ 39,092

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 September 30, 2019 and 2018

The following table summarizes our results of operations:

	Three Months Ended September 30,			
	2019	2018	$ Change	% Change
	(in thousands, except percentages)			
Revenue	$ 3,000	$ —	$ 3,000	100.0%
Operating expenses:				
Research and development	(23,244)	(13,375)	(9,869)	73.8%
General and administrative	(5,972)	(3,504)	(2,468)	70.4%
Total operating expenses	(29,216)	(16,879)	(12,337)	73.1%
Loss from operations	(26,216)	(16,879)	(9,337)	55.3%
Other income, net	1,241	375	866	230.9%
Net loss	$ (24,975)	$ (16,504)	$ (8,471)	51.3%

Revenue

The $3.0 million increase in revenue for the three months ended September 30, 2019 is related to the achievement of a clinical development milestone earned under our collaboration agreement with Merck. There was no revenue earned in the comparative three-month period in 2018.

Research and Development Expenses

Research and development expenses increased by approximately $9.8 million to $23.2 million for the three months ended September 30, 2019, from $13.4 million for the three months ended September 30, 2018. This increase was attributable to: a $4.8 million increase in CRO and CMO expenses for our zilucoplan development program; a $2.2 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 research and development activities; a $2.0 million increase in licensing fees related to an upfront payment in connection with the Camurus FluidCrystal® (FC) drug-delivery technology license agreement; a $0.4 million increase in consulting and professional fees; and a $0.4 million net increase in other expenses.

General and Administrative Expenses

General and administrative expenses increased by $2.5 million to $6.0 million for the three months ended September 30, 2019, from $3.5 million for the three months ended September 30, 2018. This increase was attributable to: a $1.2 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 $0.4 million increase in legal, audit and insurance costs; and a $0.5 million net increase in other expenses primarily relating to patent costs.

Other Income, Net

Other income, net increased by approximately $0.8 million to $1.2 million in other income, net during the three months ended September 30, 2019, from $0.4 million in other income, net for the three months ended September 30, 2018. This increase was due primarily to an increase in interest income.

Nine Months Ended September 30, 2019 and 2018

	Nine Months Ended September 30,			
	2019	2018	$ Change	% Change
	(in thousands, except percentages)			
Revenue	$ 3,000	$ —	$ 3,000	100.0%
Operating expenses:				
Research and development	(56,439)	(39,092)	(17,347)	44.4%
General and administrative	(15,712)	(10,637)	(5,075)	47.7%
Total operating expenses	(72,151)	(49,729)	(22,422)	45.1%
Loss from operations	(69,151)	(49,729)	(19,422)	39.1%
Other income, net	3,240	981	2,259	230.3%
Net loss	$ (65,911)	$ (48,748)	$ (17,163)	35.2%

Revenue

The $3.0 million increase in revenue for the nine months ended September 30, 2019 is related to the achievement of a clinical development milestone earned under our collaboration agreement with Merck. There was no revenue earned in the comparative nine-month period in 2018.

Research and Development Expenses

Research and development expenses increased by $17.3 million to $56.4 million for the nine months ended September 30, 2019, from $39.1 million for the nine months ended September 30, 2018. This increase was attributable to: a $7.6 million increase in CRO and CMO expenses for our zilucoplan development program; a $5.4 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 research and development activities; a $2.0 million increase in license fees related to an upfront payment for the Camurus

agreement; a $1.1 million increase in consulting and professional fees; a $0.4 million increase in laboratory supplies and reagent expenses; and a $0.8 million net increase in other expenses.

General and Administrative Expenses

General and administrative expenses increased by $5.1 million to $15.7 million for the nine months ended September 30, 2019, from $10.6 million for the nine months ended September 30, 2018. This increase was attributable to: a $2.6 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 $0.8 million increase in consulting and professional fees related to pre-commercialization activities; a $0.7 million increase in legal, audit and insurance costs; a $0.4 million increase to patent costs; and a $0.6 million net increase in other expenses.

Other Income, Net

Other income, net increased by approximately $2.2 million to $3.2 million in other income, net during the nine months ended September 30, 2019, from $1.0 million in other income, net for the nine months ended September 30, 2018. This increase was primarily due to an increase in interest income.

Liquidity and Capital Resources

Overview

We have funded our operations from inception through September 30, 2019 primarily through the public offerings and the private placement of our securities and revenue from our collaboration with Merck. As of September 30, 2019, we had received an aggregate of $515.5 million in net proceeds from the issuance of equity and debt securities and $23.0 million in payments in connection with our collaboration and license agreement with Merck. As of September 30, 2019, we had cash and cash equivalents of $292.6 million.

In July 2019, we completed a follow-on public offering of 4,600,000 shares of common stock, including the full exercise of the underwriters' option to purchase an additional 600,000 shares, at $32.50 per share and received aggregate net proceeds of $140.2 million, after deducting $9.0 million of underwriting discounts and commissions and approximately $0.3 million of offering expenses.

Cash Flows

The following table provides information regarding our cash flows:

	Nine Months Ended September 30,	
	2019	2018
	(in thousands)	
Net cash provided by (used in):		
Operating activities	$ (58,750)	$ (42,872)
Investing activities	(629)	(915)
Financing activities	142,159	54,465
Net increase in cash	$ 82,780	$ 10,678

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 $58.8 million for the nine months ended September 30, 2019 compared to $42.9 million for the nine months ended September 30, 2018. The increase in net cash used in operations was attributable to: a $17.2 million increase in our net loss as a result of higher operating expenses, primarily in connection with our zilucoplan development program and other research and development pipeline programs; a net increase in operating assets; partially offset by a net increase in operating liabilities and higher non-cash expenses, including stock-based compensation, depreciation and amortization.

Net Cash Used in Investing Activities

Net cash used in investing activities was $0.6 million for the nine months ended September 30, 2019 compared to approximately $1.0 million for the nine months ended September 30, 2018. The decrease in cash used in investing activities was primarily due to a decrease in purchases of property and equipment.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was approximately $142.2 million for the nine months ended September 30, 2019 compared to $54.5 million for the nine months ended September 30, 2018. The increase in cash provided by financing activities was due primarily to the $140.5 million in proceeds raised from the July 2019 follow-on offering as compared to the $54.5 million in proceeds raised from the February 2018 follow-on offering in the comparative period; and an increase of $2.3 million in proceeds from exercises of stock option and purchases of shares under our Employee Stock Purchase Plan; partially offset by $0.6 million in payments related to restricted stock units vesting.

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 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.

As of September 30, 2019, we had cash and cash equivalents of $292.6 million, which is expected to fund operating expenses and capital expenditure requirements through at least the end 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.

Off-Balance Sheet Arrangements

As of September 30, 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 September 30, 2019, we had cash and cash equivalents of $292.6 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 September 30, 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 endedSeptember 30, 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 September 30, 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 September 30, 2019 that materially affected, or were reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings.

On November 1, 2019, a lawsuit entitled Elaine Wang v. Ra Pharmaceuticals, Inc., et al., was filed in the United States District Court for the District of Delaware against us and the members of our board of directors. On November 5, 2019, a putative class action lawsuit entitled Earl M. Wheby, Jr. v. Ra Pharmaceuticals, Inc., et al., was filed in the United States District Court for the District of Delaware against us and the members of our board of directors. The lawsuits allege that the proxy statement filed by us on November 1, 2019 with the SEC in connection with the proposed acquisition omits material information with respect to the transactions contemplated by the Merger Agreement with UCB, rendering it false and misleading in violation of Sections 14(a) and 20(a) of the Exchange Act. The plaintiffs seek, among other things, injunctive relief, rescission, declaratory relief and unspecified monetary damages. We believe these lawsuits are wholly without merit, and intend to vigorously defend against the claims.

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 below and 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 below and 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. Except as set forth below, 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.

Risks Related to the Proposed Acquisition by UCB

The conditions under the Merger Agreement to UCB's consummation of the proposed acquisition may not be satisfied at all or in the anticipated timeframe.

On October 9, 2019, we entered into the Merger Agreement with UCB and Merger Sub, pursuant to which Merger Sub will be merged with and into the Company, with the Company surviving the proposed acquisition as an indirect wholly owned subsidiary of UCB.

Consummation of the proposed acquisition is subject to approval by our stockholders, receipt of certain regulatory approvals, the absence of any law or order by any governmental authority that would make illegal or otherwise prohibit, restrict or prevent the proposed acquisition, and other conditions specified in the Merger Agreement. As a result, there can be no assurance that the proposed acquisition will be consummated. These conditions are described in more detail in the Merger Agreement, which is filed as an exhibit to the Current Report on Form 8-K, filed with the SEC on October 10, 2019 and incorporated herein by reference.

The Company intends to pursue all required approvals in accordance with the Merger Agreement. However, no assurance can be given that the required approvals will be obtained and, even if all such approvals are obtained, no assurance can be given to the terms, conditions and timing of the approvals or that they will satisfy the terms of the Merger Agreement.

Furthermore, we and our board of directors have been named as defendants in a lawsuit brought by a purported holder of our common stock challenging our board of directors' actions in connection with the proposed acquisition and seeking, among other things, injunctive relief to enjoin the defendants from completing the proposed acquisition on the agreed-upon terms. See Part II, Item 1, "Legal Proceedings" for more information regarding such lawsuits. If a settlement or other resolution is not reached in this lawsuit and the plaintiff secures injunctive relief prohibiting, delaying or otherwise adversely affecting our ability to consummate the proposed acquisition, then such injunctive or other relief may prevent the proposed acquisition from becoming effective within the expected timeframe or at all.

The announcement of, or a failure to consummate, the proposed acquisition could negatively impact our business, financial condition, results of operations or our stock price.

Our announcement of having entered into the Merger Agreement could cause a material disruption to our business and there can be no assurance that the conditions to the consummation of the proposed acquisition will be satisfied. The Merger Agreement may also be terminated by the Company and/or UCB in certain specified circumstances, including, subject to compliance with the terms of the Merger Agreement, by us in order to accept a third-party acquisition

proposal that our board of directors determines constitutes a superior

proposal upon payment of a termination fee (the "Termination Fee") to UCB of $75 million. We are subject to several risks as a result of the announcement of the Merger Agreement, including, but not limited to, the following:

- If the proposed acquisition is not completed, the share price of our common stock may change to the extent that the current market price of our common stock reflects an assumption that the proposed acquisition will be consummated;
- Certain costs related to the proposed acquisition, including the fees and/or expenses of our legal, accounting and financial advisors, must be paid even if the proposed acquisition is not completed;
- Pursuant to the Merger Agreement, we are subject to certain restrictions on the conduct of our business prior to the completion of the proposed acquisition, which restrictions could adversely affect our ability to realize certain of our business strategies or take advantage of certain business opportunities;
- The attention of our management may be directed toward the consummation of the proposed acquisition and related matters, and their focus may be diverted from the day-to-day business operations of our company, including from other opportunities that might otherwise be beneficial to us;
- The inability to retain certain key employees who may have sought and obtained different employment in anticipation of the consummation of the proposed acquisition;
- Our inability to hire capable employees, given the uncertainty regarding the future of the Company, in order to execute on our continuing business operations;
- A failure of the proposed acquisition may result in negative publicity and/or a negative impression of us in the investment community or business community generally; and
- Third parties may determine to terminate and/or attempt to renegotiate their relationships with us as a result of the Merger, whether pursuant to the terms of their existing agreements with us or otherwise.

The Merger Agreement contains provisions that could make it difficult for a third party to acquire us prior to the completion of the proposed acquisition.

The Merger Agreement contains restrictions on our ability to obtain a third-party proposal for an acquisition of our company. These provisions include our agreement not to solicit or initiate any additional discussions with third parties regarding other proposals to acquire us, as well as restrictions on our ability to respond to such proposals, subject to fulfillment of certain fiduciary requirements of our board of directors. The Merger Agreement also contains certain termination rights, including, under certain circumstances, a requirement for us to pay to UCB the Termination Fee.

These provisions might discourage an otherwise-interested third-party from considering or proposing an acquisition of our company, even one that may be deemed of greater value to our stockholders than the proposed acquisition. Furthermore, even if a third-party elects to propose an acquisition, the concept of a termination fee may result in that third-party offering a lower value to our stockholders than such third-party might otherwise have offered.

Our executive officers and directors may have interests that are different from, or in addition to, those of our stockholders generally.

Our executive officers and directors may have interests in the proposed acquisition that are different from, or are in addition to, those of our stockholders generally. These interests include direct or indirect ownership of our common stock, stock options and restricted stock units, and the potential receipt of change in control or other severance payments in connection with the consummation of the proposed acquisition.

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

Recent Sales of Unregistered Securities

None.

Item 6. Exhibits

2.1+	Agreement and Plan of Merger, dated as of October 9, 2019, by and among the Registrant, UCB S.A. and Franq Merger Sub, Inc., an indirectly wholly owned subsidiary of UCB S.A. (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K (File No. 001-37926) filed October 10, 2019).
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. 001-37926) 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. 001-37926) filed November 29, 2016).
10.1*†	License Agreement, dated as of July 15, 2019, by and between the Registrant and Camurus AB.
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.
+ Certain schedules (and similar attachments) to these exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Company hereby undertakes to furnish copies of any of the omitted schedules and similar attachments upon request by the SEC.
† Portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K.

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: November 7, 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 10.1

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Execution Copy

LICENSE AGREEMENT

BY AND BETWEEN

CAMURUS AB

AND

RA PHARMACEUTICALS INC

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

TABLE OF CONTENTS

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

LICENSE AGREEMENT

This License Agreement is made as of the Effective Date (hereinafter defined) between **Camurus AB**, a limited liability company organized and existing under the laws of Sweden and having its principal place of business at Ideon Science Park, Sölvegatan 41, SE-223 70 Lund, Sweden ("Camurus") and **Ra Pharmaceuticals, Inc.**, a corporation organized and existing under the laws of Delaware and having its principal place of business at 87 Cambridge Park Drive, Cambridge, Massachusetts ("Ra Pharma") (each a "Party" and collectively, the "Parties").

WITNESSETH

WHEREAS, Camurus is the owner of all right, title and interest in and to certain patent rights and know-how relating to the FC Technology (as defined below) which delivers therapeutic levels of drug substance over extended periods by offering a lipid based injectable liquid solution that, within minutes after injection, forms a controlled release liquid crystal gel matrix *in situ* on contact with body fluids at the site of injection;

WHEREAS, Ra Pharma has capabilities in the development, manufacture, promotion, marketing, sales and life cycle management of pharmaceutical products and is the owner of all right, title and interest in and to certain proprietary molecules including the drug compound known as zilucoplan;

WHEREAS, Camurus and Ra Pharma have engaged previously in exploring the feasibility of formulating zilucoplan using FC Technology under a Feasibility Study Agreement having an effective date of November 2, 2017 as amended on February 28, 2018 (hereinafter "FSA");

WHEREAS, Ra Pharma wishes to obtain an exclusive world-wide license to the FC Technology to develop, manufacture, have manufactured, promote, market, offer for sale, distribute and sell Products containing zilucoplan and additionally up to three (3) unique Ra Pharma proprietary macrocyclic compounds in the Licensed Field in the Territory, *provided that* such additional compounds are each cleared by the Gatekeeping Procedure; and

WHEREAS, Camurus is willing to grant such exclusive world-wide rights to Ra Pharma upon the terms and conditions hereinafter set forth;

NOW, THEREFORE, in consideration of the covenants and obligations expressed herein, and intending to be legally bound, the Parties agree as follows:

1 DEFINITIONS

1.1 **"Affiliate"** means, with respect to a Party, any entity or person that controls, is controlled by, or is under common control with that Party. For the purpose of this definition, "control" or "controlled" means, direct or indirect, ownership of fifty percent (50%) or more of the shares of stock entitled to vote for the election of

directors in the case of a corporation or fifty percent (50%) or more of the equity interest in the case of any other type of legal entity; status as a general partner in any partnership; or any other arrangement whereby the entity or person controls or has the right to control the board of directors or equivalent governing body of a corporation or other entity or the ability to cause the direction of the management or policies of a corporation or other entity. The Parties acknowledge that in the case of entities organized under the laws of certain countries where the maximum percentage ownership permitted by law for a foreign investor is less than fifty percent (50%), such lower percentage shall be substituted in the preceding sentence, provided that such foreign investor has the power to direct the management and policies of such entity.

1.2 **"Camurus Collaboration Inventions"** shall have the meaning set out in Section 7.2 (c)(a).

1.3 **"Camurus IP"** means the Camurus Platform IP and Camurus' interest in any Joint Collaboration IP, including Injection Device Collaboration Inventions pursuant to Section 7.2(g).

1.4 **"Camurus Platform IP"** means all Intellectual Property that is Controlled by Camurus or any of its Affiliates during the Term hereof (whether as a result of activities under this Agreement, the FSA, or otherwise) and that is necessary or useful to make or have made, use, offer to sell, sell, have sold, import, or otherwise exploit a Product, and that Covers or relates to the FC Technology or the injection of a Product formulated using the FC Technology (including any injection devices or methods related thereto) and does not specifically claim a Drug or Product. All Patent Rights within Camurus Platform IP existing on the Effective Date are listed in Exhibit 1.4. Camurus shall provide Ra Pharma with an update of such Exhibit in connection with the JPT or when requested by Ra Pharma.

1.5 **"Camurus Platform Patent Rights"** means Patent Rights within the Camurus Platform IP.

1.6 **"Camurus Trademark"** means Trademarks Controlled by Camurus, including FluidCrystal® and other Trademarks described in Exhibit 1.6, that relate to the FC Technology.

1.7 **"Clinical Trials"** means human clinical trials conducted on healthy volunteers or patients to provide data supporting Regulatory Approval of such drug or label expansion of such drug.

1.8 **"CMO"** means one or more Third Party contract manufacturing organization(s) that may be used to source ingredients, components, packaging materials and the like and to manufacture, package, label and quality release Ra Pharma's requirements for Product for use and/or sale in the Territory.

1.9 **"Collaboration Inventions"** means all Inventions conceived or created by either Party, alone or jointly or by any of its Affiliates or by a Third Party on behalf such Party in the course of performing activities under the FSA or this Agreement.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.10 "**Commercialization Plan(s)**" shall have the meaning set out in Section 4.3.

1.11 **"Commercially Reasonable Efforts"** means the level of effort and resources required to develop, manufacture, register and commercialize a Product, or to accomplish another objective, [***].

1.12 **"Confidential Information"** means the following, subject to the exceptions set forth in Section 8.1:

(i) the terms and conditions of this Agreement, for which each Party will be considered a Disclosing Party and a Recipient;

(ii) Know-How within Camurus IP for which Camurus will be considered the Disclosing Party and Ra Pharma shall be the Recipient;

(iii) Know-How within Ra Pharma IP for which Ra Pharma will be considered the Disclosing Party and Camurus shall be the Recipient; and

(iv) any other non-public information, whether or not patentable, disclosed or provided by one Party to the other Party in connection with this Agreement, including, without limitation, information regarding such Party's strategy, business plans, objectives, research, technology, products, IP strategy, business affairs or finances including information of the type that is customarily considered to be confidential information by parties engaged in activities that are substantially similar to the activities being engaged in by the Parties under this Agreement, for which the Party making such disclosure will be considered the Disclosing Party and the receiver will be the Recipient.

1.13 **"Control" or "Controlled"** means possession by a Party of the right to grant to the other Party a license, sublicense or other right to use, of the scope provided for in this Agreement, to Intellectual Property and rights to access or cross-reference regulatory filings without violating the terms of any agreement or other arrangement with any Third Party.

1.14 **"Cover", "Covering" or "Covered"** means, with respect to a claim of a patent directed to a composition or method, that the manufacture, use, offer for sale, sale or importation of the composition or method would infringe such claim of the patent, or, with respect to a claim of a pending patent application directed to a composition or method, would infringe such claim if such application were to issue, but for ownership thereof or a license thereto.

1.15 **"Development Data"** means all chemistry, manufacturing and control, preclinical and clinical data including, without limitation, pharmacological, pharmacokinetic,

pharmaceutical development and toxicological data that is generated at any time during the Term of this Agreement by or for either Party and their Affiliates or any of Ra Pharma's licensees or sub-licensees in the course of performing activities under this Agreement .

1.16 **"Development Plan"** means Ra Pharma's plan for pre-clinical and clinical development and registration of a Product in the Territory together with associated budget. The initial Development Plan is attached hereto as Exhibit 1.16.

1.17 **"Disclosing Party"** means the Party which discloses Confidential Information to the other Party.

1.18 **"Drug"** means (i) zilucoplan (also known as RA-101495) with the chemical structure described in Exhibit 1.18 and any salts or those metabolites set forth on Exhibit 1.18(b) hereto, and (ii) each Gated Compound, including any salts thereof.

1.19 **"Effective Date"** means the date of the signature of the last Party to execute this Agreement.

1.20 "**Exclusive Indications**" means as defined in Section 2.6.

1.21 **"FC Technology"** means Camurus' formulation depot technology comprising a lipid based injectable liquid solution that, after injection, forms a controlled release liquid crystal gel matrix *in situ* on contact with body fluids at the site of injection.

1.22 **"First Commercial Sale"** means the date on which a Product is first sold following Regulatory Approval in the Territory by Ra Pharma or any of its Affiliates or Sublicensees to a Third Party (other than sales by Ra Pharma to its Affiliates) in a commercial arm's length transaction.

1.23 **"FTE"** means a full-time equivalent person year equal to at least [***] per year of work carried out by an employee.

1.24 **"FTE Costs"** means the cost of FTEs at the FTE Rate.

1.25 **"FTE Rate"** means the price of a single FTE per calendar year. The FTE Rate shall be [***] for all staff. The FTE Rate reflects the fully burdened internal costs of an FTE including all employee-related compensation, including but not limited to, salaries, wages, bonuses, benefits, profit sharing, share option grants, and any other employment costs, including travel and associated subsistence costs (but excluding travel and subsistence costs incurred in any travel) and professional dues and allocable overhead. On the 1 January each calendar year, commencing with 1 January 2020, the FTE Rate will be increased by the percentage (%) increase in inflation as measured by the Swedish Consumer Price Index published by Statistics Sweden (Sw. *Statistiska Centralbyrån*) on each 1 January of each calendar year. Camurus shall provide JPT with the revised FTE Rate by 1 February of each calendar year.

1.26 **"Gated Compound"** means each of up to three (3) proprietary Ra Pharma macrocyclic compounds that Ra Pharma desires to include in the license rights granted herein and which has passed the Gatekeeping Procedure.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.27 **"Gatekeeping Procedure"** means the procedure set forth in Sections 2.5.

1.28 **"GCP"** means Good Clinical Practices, as set forth in the ICH Harmonized Guidance on Good Clinical Practice (CPMP/ICH/135/95).

1.29 **"GMP"** means Good Manufacturing Practices, as set forth in the Rules Governing Medicinal Product in the European Union volume 4 and the equivalent requirements and/or applicable guidance in any other jurisdiction in the Territory.

1.30 **"Generic Product"** means a product approved under an Abbreviated New Drug Application, or ANDA, or any non-United States equivalent filing, with the Product as the reference product, that is "therapeutically equivalent" as evidenced by the assignment of any 'A' level therapeutic equivalence rating by the FDA, or any non- United States equivalent rating, such that the product is therapeutically equivalent to the Product, or otherwise is generally substitutable by the pharmacist for the Product when filling a prescription written for the Product without having to seek authorization to do so from the physician writing such prescription.

1.31 **"IND"** means an Investigational New Drug application (together with all subsequent submissions, supplements and amendments thereto, and any materials, documents or information referred to or relied upon thereby) filed with the FDA in conformance with applicable laws and regulations, and the equivalent thereof (or other right to commence clinical testing in humans), as applicable, in jurisdictions outside the United States.

1.32 "**Injection Device Collaboration Inventions**" means as defined in Section 7.2(c)(g).

1.33 **"Intellectual Property"** or **"IP"** means any Patent Rights, Trademarks, Know-How, Confidential Information, and any other intellectual property rights, whether or not patentable.

1.34 **"Invention(s)"** means all inventions (whether patentable or not and whether arising from or embodied in any Know How) that are conceived hereunder by or on behalf of a Party or its Affiliates, whether solely or jointly with the other Party or any Third Party.

1.35 **"Joint Collaboration Invention(s)"** shall have the meaning as defined in Section 7.2(c).

1.36 **"Joint Collaboration IP"** means the Joint Collaboration Patent Rights and Joint Collaboration Inventions.

1.37 **"Joint Collaboration Patent Rights"** means as defined in Section 7.3(c).

1.38 **"JPT"** means the Joint Project Team referred to in Section 3.4.

1.39 **"Know-How"** means technical and other information which is not in the public domain, including information comprising or relating to concepts, trade secrets, data, designs, discoveries, formulae, ideas, inventions, materials, methods, models,

research plans, procedures, designs for experiments and tests and results of experimentation and testing (including results of research or development), processes (including manufacturing processes, specifications and techniques), laboratory records, chemical, pharmacological, toxicological, clinical, analytical and quality control data, clinical and non-clinical trial data, case report forms, data analyses, reports, manufacturing data or summaries and information contained in submissions to and information from ethical committees and regulatory authorities. Know-How includes documents containing Know-How, including any rights including trade secrets, copyright, database or design rights protecting such Know-How. The fact that an item is known to the public shall not be taken to preclude the possibility that a compilation including the item, and/or a development relating to the item, is not known to the public.

1.40 **"Licensed Field"** means any and all uses including, but not limited to, the treatment, prevention, diagnosis, amelioration or modification of any disease, disorder or condition.

1.41 "**Major Markets**" means [***].

1.42 **"NDA"** means a new drug, biologic or other application, health registration, marketing authorization application, common technical document, regulatory submission, notice of compliance or equivalent application to the FDA or other applicable Regulatory Authority (excluding local and general business licenses and permits) required to be approved before commercial sale or use of the Product as a pharmaceutical or medicinal product in any formulation or dosage form (excluding any pricing and reimbursement approvals), together with all subsequent submissions, supplements and amendments thereto.

1.43 **"NDA Approval"** means approval of an NDA by the FDA or other applicable Regulatory Authority.

1.44 **"Net Sales"** means the gross amount invoiced by Ra Pharma or its Affiliates or Sublicensees, as applicable, for sale of Product to any Third Party, less deductions for:

(i) cash discounts actually given; (ii) freight, shipping insurance and other transportation expenses; (iii) sales, value-added, excise taxes, tariffs and duties, and other taxes directly related to the sale (but not including taxes assessed against the income derived from such sale); (iv) returns, rebates, chargebacks and other allowances; (v) deductions for health care reform fees and similar deductions for fees imposed by governmental entities; and (vi) write offs for bad debt.

All such deductions shall be fairly and equitably allocated to the Product and other products or services of Ra Pharma, its Affiliates and Sublicensees, such that the Product does not bear a disproportionate portion of such deductions. The transfer of Product by Ra Pharma to an Affiliate or Sublicensee shall not be deemed a sale. Net Sales shall be calculated in accordance with generally accepted accounting principles in the United States (US GAAP), consistently applied.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.45 **"Patent Right"** means (a) all national, regional and international patents and patent applications, including provisional patent applications; (b) all patent applications filed either from such patents, patent applications or provisional applications or from an application claiming priority from any of these, including utility applications, divisionals, continuations, continuations-in-part, and reissue applications; (c) any and all patents that have issued or in the future issue from the foregoing patent applications

(a) and (b), including author certificates, inventor certificates, utility models, petty patents and design patents and certificates of invention; and (d) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, re-examinations and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications (a), (b) and (c).

1.46 **"Placebo Development Data"** means Development Data that relates solely to the FC Technology without inclusion of any "active moiety", e.g. zilucoplan or any Gated Compound, including those portions of the Development Data that are directly related to safety and CMC aspects of the FC Technology and do not include information concerning the Drug.

1.47 **"Product(s)"** means a product containing a Drug as the sole active pharmaceutical ingredient formulated with the FC Technology for injection. For clarity, Products comprised of the same active pharmaceutical ingredient and delivered by similar drug administration methods (e.g., injection, such as by pen, syringe and needle, or needle- free) regardless of duration or dose or nature of the formulations of the FC Technology, shall be considered the same Product. Where the Drug formulated with the FC Technology is contained in an injection device the term "Product" shall be deemed to include also such injection device.

1.48 **"Prosecute" or "Prosecuting"** means with regard to specified Patent Rights, preparing, filing, prosecuting, validating, maintaining and defending such Patent Rights, including with respect to any re-examination, reissue, revocation, interference, nullity proceeding, post grant review or opposition proceedings including any appeal therefrom. For the avoidance of doubt, "**Prosecuting"** excludes any infringement suits and nullity actions attendant to such infringement suits or other legal proceedings to enforce the specified Patent Rights, regardless of whether or not such proceedings involve the defense of the Patent Rights in suit.

1.49 **"Ra Pharma Collaboration Inventions"** shall have the meaning set forth in Section 7.2(b).

1.50 **"Ra Pharma IP"** means the Ra Pharma Product IP and Ra Pharma's interest in any Joint Collaboration IP.

1.51 **"Ra Pharma Product IP"** means (a) all Patent Rights; (b) all Know-How; and (c) all other Intellectual Property in each case (a) - (c) Controlled by Ra Pharma or any of its Affiliates as of the Effective Date or that become Controlled by Ra Pharma or its Affiliates during the Term hereof (whether as a result of activities under this Agreement or the FSA, or otherwise) that is necessary or useful to make or have made, use, offer to sell, sell, have sold, import, or otherwise exploit a Product.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.52 **"Ra Pharma Trademarks"** means any Trademark owned or registered by Ra Pharma or that may be granted to Ra Pharma in the Territory to be used in connection with a Product in the Territory but excluding any Camurus Trademarks.

1.53 **"Recipient"** means the Party which receives Confidential Information from the other Party.

1.54 **"Regulatory Approvals"** means any approvals over and above NDA Approvals, such as licenses, registrations, or authorizations granted or issued by any Regulatory Authority necessary for the manufacture, packaging, labeling, use, storage, transport, export, import, clinical testing, promotion or sale of the Product in a country, including pricing and reimbursement approvals to the extent the applicable Regulatory Authority in such country require a pricing or reimbursement approval prior to commercialization of a Product in such country.

1.55 **"Regulatory Authority"** means any national, supranational, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity, including the FDA, in any country involved in the granting or receipt as the case may be of INDs, NDAs or Regulatory Approvals.

1.56 **"Sublicensee"** shall have the meaning defined in Section 2.3.

1.57 **"Term"** shall have the meaning defined in Section 11.1.

1.58 **"Territory"** means the entire world.

1.59 **"Third Party"** means any entity other than Camurus or Ra Pharma or their respective Affiliates.

1.60 **"Trademarks"** means registered trademarks and applications therefor, unregistered trade or service marks and company names in each case with any and all associated goodwill and all rights or forms of protection of a similar or analogous nature including rights which protect goodwill whether arising or granted under the laws of any jurisdiction and, for purposes of this definition, trade dress.

1.61 **"Valid Claim"** means a claim of a granted Patent (or, subject to the last sentence of this definition, published Patent application) that has not expired, lapsed, been cancelled or abandoned, or been dedicated to the public, disclaimed, or held unenforceable, invalid, revoked or cancelled by a court or administrative agency of competent jurisdiction in an order or decision from which no appeal has been or can be taken, including through opposition, reexamination, reissue, disclaimer, *inter partes* review, post grant review, other post grant procedures or similar proceedings. In order to be a Valid Claim, any claim being prosecuted in a pending patent application must be prosecuted in good faith and must not have been pending for more than [***] ([***]) years from the earliest priority date of the first application in such family, in which case said claim will cease to be considered a Valid Claim unless and until a patent issues that recites such claim.

1.62 Interpretation

Whenever a provision of this Agreement uses the term “including” (or “includes”, “contains” or “containing”), such term shall be deemed to mean “including without limitation” and “including but not limited to” (or “includes without limitations” and “includes but is not limited to”) regardless of whether the words “without limitation” or “but not limited to” actually follow the term “including” (or “includes”);

“Herein”, “hereby”, “hereunder”, “hereof” and other equivalent words shall refer to this Agreement in its entirety and not solely to the particular portion of this Agreement in which any such word is used;

All definitions set forth herein shall be deemed applicable whether the words defined are used herein in the singular or the plural;

Wherever used herein, any pronoun or pronouns shall be deemed to include both the singular and plural and to cover all genders;

The recitals set forth at the start of this Agreement, along with the Exhibits to this Agreement, and the terms and conditions incorporated in such recital, Exhibits shall be deemed integral parts of this Agreement and all references in this Agreement to this Agreement shall encompass such recitals, Exhibits and the terms and conditions incorporated in such recitals, Exhibits, provided, that in the event of any conflict between the terms and conditions of the body of this Agreement and any terms and conditions set forth in the recitals or Exhibits, the terms of the body of this Agreement shall control;

In the event of any conflict between the terms and conditions of this Agreement and any terms and conditions that may be set forth on any order, invoice, verbal agreement or otherwise, the terms and conditions of this Agreement shall govern;

The Agreement shall be construed as if both Parties drafted it jointly, and shall not be construed against either Party as principal drafter;

Unless otherwise provided, all references to Sections and Exhibits in this Agreement are to Sections and Exhibits of and to this Agreement;

Unless otherwise provided, all references to days, months, quarters or years are references to calendar days, calendar months, calendar quarters or calendar years;

Any reference to any federal, national, state, local or foreign statute or law shall be deemed to also refer to all rules and regulations promulgated thereunder, unless to context requires otherwise; and

Wherever used, the word “shall” and the word “will” are each understood to be imperative or mandatory in nature and are interchangeable with one another.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

2 LICENSE GRANT TO RA PHARMA

2.1 License Grant: Camurus hereby grants to Ra Pharma, and Ra Pharma hereby accepts, an exclusive royalty-bearing license under the Camurus IP to develop, make or have made, use, sell, offer for sale, market, import, export, distribute, promote, and otherwise commercialize Products in the Licensed Field in the Territory. The exclusive rights of Ra Pharma granted herein are subject to the rights required for Camurus to perform its obligations and exercise its rights under this Agreement.

2.2 Subcontracting: Subject to the terms of Section 2.3, Ra Pharma and its Affiliates shall have the right, without obtaining the written consent of Camurus, (i) to subcontract its development, manufacturing and commercialization responsibilities under this Agreement (and grant any necessary sublicenses in connection therewith), and (ii) to the extent commercially reasonable to do so, engage contract sales organizations to supplement or complement Ra Pharma's own sales force. Ra Pharma shall at all times be liable for all such activities as if such activities had been undertaken by Ra Pharma hereunder. Without limiting the foregoing, Ra Pharma may only subcontract manufacturing of the material embodying the FC Technology and Product within the US, EU (including UK) and Japan without Camurus' prior written approval.

2.3 Sublicenses: Subject to Section 2.2, Ra Pharma may not grant sublicenses under the license granted under Section 2.1, except as follows:

(a) Ra Pharma may grant sublicenses to Camurus IP to any of its Affiliates or Third Parties as required to make and have made the Product;

(b) Ra Pharma may grant sublicenses to the Camurus IP to any of its Affiliates or Third Parties to develop, make, have made, use, sell, offer for sale, market and promote a Product in the Licensed Field in the Territory;

provided, that in each such case (a) and (b): (i) Ra Pharma shall be liable to Camurus as if Ra Pharma is exercising such sublicensed rights itself under this Agreement; (ii) the Sublicensee shall not be permitted to grant further sublicenses, unless the Sublicensee is an Affiliate of Ra Pharma, in which case the Sublicensee may sublicense any portion of its rights to another Affiliate of Ra Pharma for so long as such entity remains an Affiliate of Ra Pharma; and (iii) Ra Pharma shall provide upon written request by Camurus reasonable assurance that its Sublicensees comply with confidentiality, indemnity, reporting, audit rights, access to data (including to obtain rights to Placebo Development Data, as applicable pursuant to this Agreement, from Sublicensees), and information obligations at least equal to those set forth in this Agreement. Ra Pharma shall promptly provide notice to Camurus of any sublicense granted pursuant to this Section 2.3. Any person or entity that receives a sublicense or is otherwise granted the right to promote and sell the Product as permitted hereunder is a "Sublicensee". Notwithstanding the foregoing, Ra Pharma may only grant to a Sublicensee rights to manufacture the material embodying the FC Technology and Product within the US, EU (including UK) and Japan, without Camurus' prior written approval.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

2.4 Grant Back to Camurus: Ra Pharma hereby grants to Camurus, and Camurus hereby accepts, a world-wide, paid up, non-exclusive, perpetual license, with the right to sublicense, solely to develop, make or have made, use, sell, offer for sale, market and promote any products in the Territory where such license is limited solely to those portions of Ra Pharma's interest in any Collaboration Inventions and/or Patent Rights claiming such Collaboration Inventions (but excluding Ra Pharma' Development Data which is addressed in Section 3.7)) that: (a) are directly related to the FC Technology and (b) that do not relate to (with respect to Know-how) or claim (with respect to Patent Rights) the Drug or the Product or any method of making or using the same. In the event that Camurus sublicenses any of its rights under this Section 2.4, (i) Camurus shall be liable to Ra Pharma as if Camurus were exercising such sublicensed rights itself under this Agreement; and (ii) Camurus shall ensure that any sublicensee of Camurus' rights under this Section 2.4 is required to comply with obligations with respect to confidentiality and indemnity owed by such sublicensee to Camurus that correspond and are no less stringent than the obligations owed by Camurus to Ra Pharma pursuant to this Agreement with respect to confidentiality and indemnity.

2.5 Gatekeeping Procedure: On one or more occasions during the first [***] ([***]) months following the Effective Date, Ra Pharma may notify Camurus in writing that it wishes to include additional proprietary Ra Pharma macrocyclic compound(s) in the license rights granted in Section 2.1 (the "Compound Notice"). The Compound Notice shall include details on the chemical structure of the proposed macrocyclic compound as well as target indication(s). Camurus shall within [***] ([***]) days from its receipt of the Compound Notice (i) in good faith determine whether (i) Camurus has itself initiated bona fide research or development efforts that Camurus can reasonably show is competing with the compound subject to the Compound Notice (e.g. having the same indication and/or target as the compound subject to the Compound Notice); or (ii) Camurus is contractually prohibited under any contract with a Third Party from granting to Ra Pharma the licenses set forth in this Agreement with respect to such compound; and (iii) notify Ra Pharma in writing of the results of such determination i.e. whether the notified macrocyclic compound(s) has passed the Gatekeeping Procedure or not. Any notice provided by Camurus hereunder shall set out the reasons for Camurus' determination, *provided however*, that Camurus shall be under no obligation to disclose any confidential information of a Third Party or any Camurus' proprietary information concerning its internal research and development efforts or plans. A proprietary Ra Pharma macrocyclic compound which Camurus has notified Ra Pharma has passed the Gatekeeping Procedure shall be deemed a Gated Compound for the purposes of this Agreement. If [***] ([***]) proprietary Ra Pharma macrocyclic compounds have passed the Gatekeeping Procedure and are deemed Gated Compounds hereunder, then Ra Pharma shall have no further rights under this Section 2.5 and in all events Ra Pharma's rights under Section 2.5 shall cease twenty-four (24) months after the Effective Date.

2.6 Exclusivity: Provided that Ra Pharma [***], Camurus shall not grant to any Third Party any rights under the Camurus IP to develop and commercialize any peptide or protein complement C5

inhibitor (whether cyclic or linear) for treatment of [***], nor shall Camurus itself develop or commercialize any peptide or protein complement C5 inhibitor for treatment of [***]. If Ra Pharma [***], then Camurus shall no longer have any obligations under this Section 2.6. Subject to the cure periods permitted in Section 11.3, provided [***], Camurus' exclusivity granted to Ra Pharma for [***] as set forth in this Section 2.6 shall continue until the end of the Term of this Agreement.

3 DEVELOPMENT OF PRODUCT

3.1 Ra Pharma Development Responsibility and Diligence: Ra Pharma shall have the responsibility to develop the Products within the scope of the rights granted to it hereunder at its own cost and Ra Pharma shall in doing so at all times exercise Commercially Reasonable Efforts and shall otherwise comply with the terms and conditions of this Agreement. Ra Pharma shall keep the JPT regularly appraised of the progress of the execution of the Development Plan. Ra Pharma shall provide to the JPT draft forms of protocols for the purpose of obtaining comments. Ra Pharma in good faith shall consider all comments provided by Camurus within the [***] ([***]) day period following Camurus receipt of such protocols, provided, however, and subject to Ra Pharma's responsibility to exercise Commercially Reasonable Efforts, that at all times Ra Pharma shall have the final decision rights over all decisions related to Product development, any trial protocols, and (in relation to Section 3.2) amendments to the Development Plan. Ra Pharma may update the Development Plan at any point to reflect changes in the progress of development.

3.2 Camurus Services: Ra Pharma may utilize Camurus to perform certain agreed development activities as shall be specified in a separate work order to a written addendum to the Development Plan. Any addendum or amendment to the Development Plan requiring Camurus to perform services shall require the written agreement of Camurus. Ra Pharma shall reimburse Camurus for its costs and expenses incurred in providing such services pursuant to a budget for such costs and expenses, including FTE Costs (to the extent beyond the [***] hours to be provided at Camurus' expense pursuant to Section 3.3), which shall be set forth in the addendum to the Development Plan. Such costs and expenses incurred by Camurus may be invoiced to Ra Pharma on a [***] basis. Ra Pharma shall effect payment of all invoices to Camurus' designated bank account within [***] ([***]) days after the date of Camurus' invoice. Camurus shall together with such invoices provide reasonable available supporting documentation of such costs and expenses (including relevant Third Party invoice and specification of hours worked by Camurus and a summary of the work performed). Ra Pharma agrees not to withhold payment in respect of any Third Party

costs that are within an agreed budget, although Ra Pharma may dispute the same. For clarity, Camurus shall not be obliged to carry out any activities unless Ra Pharma has agreed to reimburse Camurus for the associated costs and expenses.

3.3 Certain Camurus Support Provided at Camurus' Expense: Following the Effective Date, Camurus will provide up to [***] ([***]) man-hours of support from Camurus employees as requested by Ra Pharma. These hours of support will be provided by Camurus at its own expense, and Ra Pharma will not be required to pay for this support. The first [***] ([***]) man-hours of support provided by Camurus to Ra Pharma at Ra Pharma's request will be handled pursuant to this Section regardless of whether the requested support relates to development, regulatory, tech transfer, manufacturing or other issues.

3.4 Joint Project Team: Upon the Effective Date, the Parties shall appoint a Joint Project Team (the "JPT") which shall be the primary forum for exchange of information between the Parties but, for the avoidance of doubt, shall have no decision making authority. The JPT shall have the following responsibilities:

(i) Coordination of project activities;

(ii) Reviewing the progress and results of Ra Pharma's development and commercialization efforts and reviewing amendments to the Development Plan;

(iii) Discuss and review the status of patent applications directed to Collaboration Inventions as well as discussing procedures for filing of Joint Patents;

(iv) Reviewing the progress of Camurus' technology transfer activities in respect of the Product as detailed in Section 6; and

(v) Discuss publications regarding a Product (such as abstract presentations at conferences, symposia, press releases, and the like).

3.5 Meetings of the JPT

The JPT shall consist of [***] representatives appointed by each of Camurus and Ra Pharma, and shall be chaired by [***]. Each Party may invite ad hoc attendance by non-JPT members, provided that where matters under Section 3.4 (iii) and/or (v) are to be raised, each Party will have patent counsel in attendance.

The JPT shall meet as necessary but in any event no less frequently than [***]. Meetings of the JPT may take place by telephonic or video conference unless otherwise agreed. Minutes from the meetings shall be kept by the Chairman of the JPT and circulated to Camurus members within a reasonable time for comments and approval.

Each Party shall bear its own costs, including travel and lodging for its personnel serving on the JPT or attending meetings of the JPT.

Each Party shall submit to the JPT members [***] ([***]) days in advance of each JPT meeting reasonably detailed progress and other reports to keep the JPT

informed of the current progress and status of the conduct of its respective activities.

3.6 Regulatory Filings and Approvals in the Territory: Ra Pharma shall be responsible for, and have final decision-making authority with respect to, applying for and obtaining Regulatory Approvals for each Product in the Territory, at all times using Commercially Reasonable Efforts, which applications and approvals shall be held by and in the name of Ra Pharma. Camurus shall provide assistance as reasonably requested in (i) compiling an IND and NDA, including any supplements and/or amendments; (ii) providing support for meetings with Regulatory Authorities; and (iii) responding to questions from the Regulatory Authorities on technical (as opposed to pricing) questions on a Product and Camurus shall be reimbursed for such work at Camurus FTE Costs and reimbursement of documented expenses (to the extent beyond the [***] hours to be provided at Camurus' expense pursuant to Section 3.3).

3.7 Development Data: To the extent permitted by law and subject to the terms and conditions of this Agreement, Ra Pharma grants Camurus, its Affiliates and licensees the right to cross-reference any portions of any Placebo Development Data Controlled by Ra Pharma or its Affiliates that have been submitted to the FDA or any other applicable Regulatory Authorities by Ra Pharma, its Affiliates or licensees, solely as may be necessary or useful for Camurus', its Affiliates' and licensees' regulatory filings in the Territory for other products that utilize the FC Technology, provided that such other products do not consist of a Product. Camurus shall provide Ra Pharma with notice when it shares any Placebo Development Data with any licensee, and with at least [***] ([***]) days advanced written notice of the regulatory agency and division which is receiving any cross-reference filing, before Camurus or any of its Affiliates or licensees exercises any right of cross-reference as contemplated under the foregoing provisions of this Section. Ra Pharma shall give Camurus, its Affiliates and licensees reasonable access to and right to use (including the right to copy where reasonably required) a copy of those portions of the Placebo Development Data, in each case only to the extent that such right of reasonable access and use is necessary or useful for development or regulatory filings for products that utilize the FC Technology and do not consist of a Product. Ra Pharma hereby grants to Camurus, its Affiliates and licensees a right to reference and use Placebo Development Data Controlled by Ra Pharma or its Affiliates for the purpose of filing, maintaining, defending and enforcing patent applications and patents covering Camurus Collaboration Inventions. Camurus shall be responsible for reimbursement to Ra Pharma of any costs on an hourly fee basis incurred in connection with the provision of access to any data by Ra Pharma pursuant to this Section, including the costs of segregating data that relates solely to the FC Technology. Such costs shall be calculated on an hourly fee basis consistent with the FTE Rate.

Within the scope of the license granted in Section 2.1, Camurus grants to Ra Pharma, its Affiliates, and sublicensees with a right of cross-reference, a right of reasonable access to and a right to use the Development Data, regulatory filings and approvals that Camurus or its Affiliates Control that are directly related to the FC Technology and that do not include information concerning any active pharmaceutical ingredient under development by Camurus or its Affiliates or licensees or sublicensees, in each

case only to the extent that such right to cross-reference, such right of reasonable access and such right of use is necessary or reasonably useful for regulatory filings for the Product(s) made or to be made by Ra Pharma or any of its Affiliates or sublicensees. Ra Pharma shall provide Camurus with at least [***] ([***]) days advanced written notice of the regulatory agency and division which is receiving the cross- reference filing, before Ra Pharma or any of its Affiliates or sublicensees exercises any right of cross-reference as contemplated under the foregoing provisions of this Section. Ra Pharma shall be responsible for reimbursement to Camurus of any costs incurred in connection with the provision of access to any data by Camurus pursuant to this Section, including the costs of segregating data that relates solely to the FC Technology. Such costs shall be calculated on an hourly fee basis, consistent with the FTE Rate.

3.8 Reporting Adverse Events: Not later than [***] ([***]) days prior to the IND filing for the first Product, Ra Pharma and Camurus shall develop and agree upon safety data exchange procedures governing the coordination of collection, investigation, reporting, and exchange of information concerning adverse events (as defined in the then current edition of ICH Guidelines and any other relevant regulations or regulatory guidelines or any other safety problem of any significance, hereafter "Adverse Events"), product quality and product complaints involving Adverse Events, sufficient to permit each Party, its Affiliates, Sublicensees or licensees to comply with its legal obligations, including to the extent applicable, those obligations contained in ICH Guidelines. The safety data exchange procedures shall be promptly updated if required by changes in legal requirements or by agreement between the Parties. In any event, each Party shall inform the other Party of any Adverse Event of which it becomes aware in a timely manner commensurate with the seriousness of the Adverse Event, provided that Ra Pharma shall only be required to inform Camurus of Adverse Events that Ra Pharma, in its sole reasonable discretion, determines may relate to the FC Technology. Ra Pharma shall be responsible for reporting all Adverse Events relating to the Product to the appropriate regulatory authorities in the countries in the Territory in accordance with the appropriate laws and regulations of the relevant countries and authorities. Ra Pharma shall ensure that its Affiliates and Sublicensees comply with all such reporting obligations. Each Party shall designate a safety liaison to be responsible for communicating with the other Party regarding the reporting of Adverse Events.

3.9 GDPR: The Parties are committed to respect privacy and to ensure lawful processing of personal data. Each Party shall be individually responsible, as a sole data controller, for its own processing of personal data pursuant to and/or in connection with this Agreement.

4 COMMERCIALIZATION

4.1 Responsibility: Ra Pharma shall have responsibility at its own cost to commercialize the Products in the Territory; provided that Ra Pharma shall exercise Commercially Reasonable Efforts to commercialize the Product and shall comply with the terms and conditions of this Agreement.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

4.2 Post Registration Studies; Publications: To the extent that Ra Pharma performs post registration, Phase IV clinical trials or other clinical studies of a Product following receipt of Regulatory Approval for the Product ("Ra Pharma Post-Registration Studies"), Ra Pharma shall provide Camurus with draft forms of summary protocols for major studies before commencement of any such study. Ra Pharma shall provide Camurus with draft publications [***] ([***]) days prior to submission of such drafts for publication. Ra Pharma shall consider in good faith all comments provided by Camurus within the [***] ([***]) day period following Camurus' receipt of such protocols and publications; *provided*, that Ra Pharma shall have the right to determine the content and timing of all final protocols and publications so long as they conform to other requirements under this Agreement. [***] shall bear the cost of all Ra Pharma Post-Registration Studies.

4.3 Commercialization Plans: Beginning not later than [***] ([***]) months following filing of the first NDA for a Product in the Territory and on an annual basis thereafter, on a Product-by-Product basis Ra Pharma shall submit to Camurus, for informational purposes only, Ra Pharma's top level commercialization plan for the Product for the following year in the Territory, ("Commercialization Plan(s)").

5 PAYMENT OBLIGATIONS

5.1 Signing Fee: Within [***] ([***]) calendar days of the Effective Date and upon receipt of an invoice from Camurus, Ra Pharma shall pay Camurus a non-refundable and non-creditable signing fee of Two Million US Dollars (US$ 2,000,000). Additionally, Ra Pharma shall pay [***] within [***] ([***]) calendar days from Camurus' written notice [***] as set forth in Section 2.5 and upon receipt of an invoice from Camurus.

5.2 [***].

5.3 Milestone Payments: On a Product-by-Product basis, Ra Pharma shall pay the following non-refundable, non-creditable amounts upon the achievement of the following events, within [***] ([***]) calendar days after each such event and upon receipt of an invoice from Camurus:

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

	MILESTONE EVENT	MILESTONE PAYMENT
1	[***]	[***]
2	[***]	[***]
3	[***]	[***]
4	[***]	[***]
5	[***]	[***]
6	[***]	[***]
7	[***]	[***]

[***]

For the avoidance of doubt, (x) each of the milestone payments shall become payable upon the occurrence of the associated milestone event, irrespective of the order in which the milestone events occur relative to each other, and (y) no amounts shall be due for subsequent or repeated achievements of any milestone event for the same Product. With the exception of milestone payments [***] above, if a particular milestone event is achieved before a milestone event that is earlier listed on the table in this Section 5.3 is achieved, then to the extent the milestone payment for such earlier listed milestone event has not already been paid, such prior milestone payment shall then also be due. In no event shall development and approval milestone payments be payable in excess of [***] for each Product.

5.4 Royalties

On a Product-by-Product basis, during the Royalty Term, Ra Pharma shall pay to Camurus royalties ("Royalties") equal to the percentages on the annual Net Sales of Product as described below.

Product Net Sales Tier	Royalty
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Royalties shall be payable for a time period calculated on a Product-by-Product and country-by-country basis in respect of the licenses granted to Ra Pharma by Camurus hereunder beginning on the First Commercial Sale of such Product in such country and ending on the later of (a) [***] ([***]) years after the date of such First Commercial Sale of a Product in such country; and (b) the expiration of all Valid Claims Covering such Product within Camurus Platform Patent Rights or Patent Rights claiming Collaboration Inventions in such country. The period during which Royalties are payable in respect of a Product in any country is referred to as the "Royalty Term".

5.5 Notwithstanding the provisions of Section 5.4, royalty rates shall be reduced as follows, with respect to the sale of Product in any country in the Territory during the Royalty Term, if the sale, manufacture or use of the Product in such country would not be Covered by a Valid Claim of (i) Patent Rights within the Camurus Platform Patent Rights; or (ii) Patent Rights claiming Collaboration Inventions: [***]

5.6 In the event that Ra Pharma obtains after the Effective Date a license to issued Patent Rights from any Third Party(ies) in order to avoid infringement of such Patent Rights when developing, making, having made, using, importing, exporting, offering to sell, selling and or otherwise exploiting the FC Technology aspects of the Product(s) (hereinafter "Third Party Licenses"), then [***] of any and all license payments (including upfront payments and royalties) actually paid under such Third Party Licenses by Ra Pharma shall be creditable against the Royalties otherwise due Camurus by Ra Pharma with respect to the sale of such Product. In no event shall the Royalties owed by Ra Pharma to Camurus in any [***] be reduced by more than [***] pursuant to this Section. At the request of Ra Pharma, Camurus shall provide reasonable assistance to Ra Pharma in obtaining any such Third Party Licenses.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

5.7 Sales Milestones: Ra Pharma shall pay the following non-refundable, non-creditable sales milestones upon the achievement of the following sales levels for all Products sold in the Territory. Ra Pharma shall notify Camurus in writing of the achievement of each milestone within [***] ([***]) days following the achievement of such milestone, and payment for any such milestones shall be made within [***] ([***]) business days of receipt of appropriate original invoice from Camurus following such notification by Ra Pharma. Sales milestones will be paid in accordance with the schedule below, with each milestone paid only once and on the first occurrence of the event, as set forth below. In the event more than one sales milestone is reached in the same year, then each such milestone shall be due that year.

Product Event	Amount
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

In no event shall sales milestone payments be payable in excess of US$ 55,000,000 million.

5.8 Royalty and Milestone Reports: Royalties and sales milestone payments shall be paid [***] each year following the First Commercial Sale of a Product or the relevant milestone event, and shall include a written report with respect to the preceding quarter (the "Payment Report") [***] Ra Pharma shall notify Camurus in writing promptly following the achievement of any milestone described in this Section 5.

5.9 Payments

(a) All payments due under this Agreement shall be paid in immediately available funds in US Dollar to the bank account designated in writing by Camurus, as the case may be. To the extent Net Sales are accrued in currencies other than US

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Dollar, Net Sales shall be converted to US Dollar, as the case may be, at the average daily rate of exchange for the applicable calendar quarter as published by Financial Times (UK edition). The calculation of the average rate of exchange shall be stated in terms of US Dollar per foreign currency units.

(b) All payments hereunder are exclusive of any taxes, fees or charges imposed by any local or national authority. In the event that Ra Pharma reasonably determines that any tax, duty or other levy is required to be paid or withheld on account of Royalties or other payments payable to Camurus under this Agreement, such amounts shall be deducted from the amount of Royalties or other payments otherwise due. Ra Pharma shall secure and send to Camurus proof of any such taxes, duties or other levies withheld and paid by Ra Pharma for the benefit of Camurus, and cooperate with any request to ensure that amounts withheld are reduced to the fullest extent permitted by the relevant jurisdiction.

(c) Any payments that are not paid within the date such payments are due under this Agreement shall bear interest at an annual rate of interest equal to the London Interbank Offered Rate ("LIBOR"), plus [***], calculated on the number of days such payment is delinquent.

5.10 Books and Records; Audit Rights: Ra Pharma shall keep full and true books of accounts and other records in sufficient detail so that the Royalties payable hereunder can be properly ascertained. Ra Pharma shall, at the request of Camurus, permit a nationally recognized independent certified public accountant selected by Camurus to have access during ordinary business hours, to such books and records as may be necessary to determine the correctness of any Payment Report or payment made under this Agreement or to obtain information as to Royalties and milestones payable in case of failure to report or pay pursuant to the terms of this Agreement. The auditor shall execute a written confidentiality agreement with Ra Pharma and shall disclose to Camurus only the amount and accuracy of payments reported and actually paid or otherwise payable under this Agreement. The auditor shall send a copy of the report to Ra Pharma at the same time it is sent to Camurus. Such examination shall be conducted (a) after at least [***] ([***]) days prior written notice from Camurus, (b) at the facility(ies) where such books and records are maintained, and (c) no more frequently than [***] in any calendar year. Camurus shall be responsible for expenses for the independent certified public accountant, except that Ra Pharma shall reimburse Camurus in full thereof if the independent accountant determines the Royalties and milestones paid by Ra Pharma to Camurus are less than [***] percent ([***]%) of the amount actually owed for the period of the audit. As a condition to any sublicense granted by Ra Pharma hereunder, Ra Pharma shall ensure that Camurus has the same audit rights as those described in this Section 5.10 with respect to any such Ra Pharma Affiliate or Sublicensee.

6 MANUFACTURE

Technology Transfer: Camurus shall use Commercially Reasonable Efforts to transfer such of its manufacturing technology as may be reasonably necessary to enable Ra Pharma or CMO to manufacture the Products for non-clinical, clinical and commercial

use and the Parties shall use Commercially Reasonable Efforts to complete the technology transfer within [***] ([***]) months from Effective Date. Camurus shall use Commercially Reasonable Efforts to provide technical assistance to enable the use of such manufacturing technology to manufacture the Products. Prior to such technology transfer, the Parties will agree upon a technology transfer plan and corresponding budget. Ra Pharma shall reimburse Camurus its out of pocket costs and expenses as well as Camurus' FTE Costs incurred in providing such technology transfer and technical assistance (to the extent beyond the [***] hours to be provided at Camurus' expense pursuant to Section 3.3). Camurus shall be reimbursed by Ra Pharma on a [***] basis, within [***] ([***]) days of receipt of an invoice setting forth such costs and expenses.

7 INTELLECTUAL PROPERTY

7.1 Trademarks

(a) Ra Pharma shall have the right to select, and shall register and maintain, at its expense, such Product Trademarks as shall be used for the promotion, marketing and sale of any Product in the Territory. Ra Pharma shall own such Product Trademarks and all goodwill associated therewith.

(b) Ra Pharma may use the Camurus Trademark for commercialization of Products in the Territory. If Ra Pharma opts to use the Camurus Trademark, save to the extent Ra Pharma may be required to do so by a Regulatory Authority or pursuant to the requirements of a Regulatory Approval, Ra Pharma shall not conceal or otherwise obscure, remove or otherwise interfere with the Camurus Trademark. Ra Pharma shall not register or use any Trademark confusingly similar to any Camurus Trademark or any other Trademarks used by Camurus with the FC Technology. Ra Pharma shall ensure that each reference to and use of the Camurus Trademark in any marketing material related to a Product is accompanied by an acknowledgement that the Camurus Trademark is owned by Camurus and used by Ra Pharma under license. Ra Pharma shall adhere to any reasonable requests from Camurus relating to Ra Pharma' use of the Camurus Trademark.

7.2 Ownership of Collaboration Inventions

Subject to the terms hereof, including the licenses and other rights granted hereunder, all Collaboration Inventions shall be owned as follows:

(a) All Collaboration Inventions including Joint Collaboration Inventions conceived or created by either Party or a Third Party on behalf of such Party during the Term relating to (i) solely the FC Technology; or (ii) the FC Technology incorporating any active pharmaceutical ingredient without relating specifically to a Drug or Product, shall be exclusively owned by Camurus ("Camurus Collaboration Inventions"). Ra Pharma hereby assigns, and to the extent such present assignment is not possible, agrees to assign its entire right, title, and interest in any such Collaboration Inventions to Camurus.

(b) All Collaboration Inventions including Joint Collaboration Inventions conceived or created by either Party or a Third Party on behalf of such Party during the Term relating (i) solely to a Drug, or (ii) solely to a Product, shall be exclusively owned by Ra Pharma ("Ra Pharma Collaboration Inventions"). Camurus hereby assigns, and to the extent such present assignment is not possible, agrees to assign its entire right, title, and interest in any such Collaboration Inventions to Ra Pharma.

(c) The Parties shall co-own all Joint Collaboration Inventions, other than Joint Collaboration Inventions which are Camurus Collaboration Inventions or Ra Pharma Collaboration Inventions described above in (a) and (b), and, subject to the rights granted each Party under this Agreement, each Party shall have an undivided interest therein, and may make, use, sell, keep, license or assign its interest in such co-owned Joint Collaboration Inventions and otherwise undertake all activities a sole owner might undertake with respect to such co- owned Joint Collaboration Inventions, without the consent of and without accounting to the other Party. "Joint Collaboration Inventions" means Collaboration Inventions for which it is determined, in accordance with the patent laws of the United States, that both: (i) one or more employees, consultants or agents of Camurus or any other persons obligated to assign such Collaboration Invention to Camurus; and (ii) one or more employees, consultants or agents of Ra Pharma or any other persons obligated to assign such Collaboration Invention to Ra Pharma, are joint inventors of Collaboration Invention. For any co-owned Joint Collaboration Inventions that could be the subject of an application for a Patent Right, the JPT, will consult with the respective patent counsels of each Party prior to filing the application therefor to confirm that it is a Joint Invention. Each Party will provide information relevant to such determination to the JPT and such patent counsel. If the JPT based on the determination of inventorship fails to agree whether there has been joint inventorship, the application for the Patent Right will continue to be filed as Joint Collaboration IP under the procedures set out in this Section 7 and the dispute will be referred to an independent US law firm acceptable to each of the Parties for Expert Determination as provided in Exhibit 7.2(c).

(d) For clarity and notwithstanding Section 7.2 (a), all Placebo Development Data shall be exclusively owned by Ra Pharma. Subject to appropriate confidentiality undertakings, each Party shall notify the other Party promptly upon conception or creation of each Collaboration Invention, and, to the extent a Party is granted rights hereunder in such Collaboration Invention, shall provide a copy of the same to the other Party.

(e) For the avoidance of doubt, neither Party is granted any license rights to any intellectual property rights of the other Party which may be required for such Party to use a Collaboration Invention, unless otherwise expressly granted herein.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

(f) Each of the Parties shall do all such acts and things and execute all such deeds and documents as may be necessary or desirable for them to perfect their rights of ownership as specified in this Section 7.2 and otherwise implement the provisions of this Section 7. Each Party shall, and shall cause its applicable Affiliates, Third Party subcontractors, and their respective employees and agents to, perform at the requesting Party's cost all reasonable acts reasonably requested, including the execution of confirmatory deeds and assignment documents of Patent Rights as may be necessary or desirable for them to perfect their title therein in accordance with the forgoing provisions of this Section.

(g) Notwithstanding anything to the contrary in this Section 7.2, all injection devices that constitute Collaboration Inventions ("Injection Device Collaboration Inventions") shall be owned and handled as follows:

(i) Injection Device Collaboration Inventions jointly conceived or created by both the Parties (or Third Parties acting on behalf of both Parties) shall constitute Joint Collaboration Inventions.

(ii) Injection Device Collaboration Inventions conceived or created solely by Camurus (or a Third Party acting with or on behalf of Camurus) shall be solely owned by Camurus, shall constitute Camurus IP, and therefore shall be licensed to Ra Pharma pursuant to Section 2.1.

(iii) Injection Device Collaboration Inventions conceived or created solely by Ra Pharma (or a Third Party acting with or on behalf of Ra Pharma) shall be solely owned by Ra Pharma. Ra Pharma hereby grants to Camurus a non-exclusive, perpetual, sub-licensable, royalty-free and fully paid-up license under such Injection Device Collaboration Inventions to develop, make or have made, use, sell, offer for sale, market, import, export, distribute, promote, and otherwise commercialize products using such invention that contain any drug formulated with the FC Technology other than (a) a Drug, or (b) provided that Ra Pharma [***] any peptide or protein complement C5 inhibitor to be used in any drug to be used in any of [***].

7.3 Prosecution of Patents

(a) Patent Prosecution of Camurus Platform IP. Camurus shall control the Prosecution of Camurus Platform Patent Rights [***] using Commercially Reasonable Efforts to Prosecute all patent applications forming part of Camurus Platform IP. Camurus shall provide Ra Pharma with an update on the

status of the Camurus Platform Patent Rights at each JPT or when requested by Ra Pharma. In the event that, having filed, Camurus declines to further Prosecute any published Camurus Platform Patent Rights having claims covering the Product (as formulated at the time of Camurus' written notice) in any country of the Territory, Camurus shall provide Ra Pharma with written notice thereof. Such notice shall be given at least [***] ([***]) days prior to the expiration of any official substantive deadline relating to such activities. In any such circumstances and provided that no earlier licensee of Camurus has assumed or been granted, prior to the Effective Date, the right to Prosecute such Platform Patents, Ra Pharma shall have the right to decide that Ra Pharma should continue to Prosecute such Camurus Platform Patents owned by Camurus [***]. In such case, Ra Pharma shall give written notice to Camurus within [***] ([***]) days from Camurus' notice. Camurus shall upon receipt of any such notice from Ra Pharma transfer to Ra Pharma copies of files relating to the relevant Camurus Platform Patent Rights and [***] execute any documents to otherwise transfer control of such Prosecution to Ra Pharma. Camurus shall remain the owner of such Camurus Platform Patent Rights and Ra Pharma shall provide Camurus the same information and rights required under this Section 7.3 to be provided Ra Pharma concerning the Prosecution of such Patent Rights. The terms of this Section 7.3 shall be subject to the terms of any agreement with a Third Party under which Camurus acquired rights to any such Camurus Platform Patents. From and after the Effective Date, and prior to the assumption by Ra Pharma of the right to Prosecute any Camurus Platform Patent Rights, Camurus shall not offer to any Third Party (that did not have any such right already existing as of the Effective Date) to Prosecute any of the Camurus Platform Patent Rights without first having offered Ra Pharma a right to such Prosecution pursuant to this Section 7.3.

(b) Patent Prosecution of Ra Pharma Product IP. Ra Pharma shall control the Prosecution of the Patent Rights within Ra Pharma Product IP ("Ra Pharma Product Patent Rights"). Ra Pharma shall control the Prosecution of the Patent Rights within Ra Pharma Product IP ("Ra Pharma Product Patents") in the Territory [***] using Commercially Reasonable Efforts to Prosecute all patent applications forming part of such Ra Pharma Product Patent Rights. Ra Pharma shall provide Camurus the same information and rights required under Section 7.3(a) to be provided Ra Pharma concerning the Prosecution of such Patent Rights referred therein.

In the event that, having filed Ra Pharma Product Patent claiming a Product, Ra Pharma declines to further Prosecute any such Ra Pharma Product Patents in any Major Market country, Ra Pharma shall provide Camurus with written notice thereof. Such notice shall be given at least [***] ([***]) days prior to the expiration of any official substantive deadline relating to such activities. In any such circumstances Camurus shall have the right to continue to Prosecute such Ra Pharma Product Patent claiming the Product in such Major Market Country [***] and in such case Camurus shall give written notice to Ra Pharma. Ra Pharma shall upon receipt of any such notice from Camurus transfer to Camurus [***] control of such Prosecution.

As promptly as practicable after the Effective Date (but in no event later than [***] ([***]) months after the Effective Date), Ra Pharma shall file a patent application with the United States Patent and Trademark Office claiming [***] (the "Product Specific Application"). Camurus shall provide Ra Pharma with such information, data generated and/or invention disclosures reasonably requested by Ra Pharma and shall otherwise cooperate with all reasonable requests made by Ra Pharma, in connection with the Prosecution of such Product Specific Application. Ra Pharma shall give Camurus an opportunity to comment upon the draft Product Specific Application before it is filed. Ra Pharma shall consider in good faith any reasonable comments made by Camurus in relation the Product Specific Application. Upon filing Ra Pharma shall promptly provide a copy of the filed Product Specific Application to Camurus. Such patent application shall become part of Ra Pharma Product Patent Rights and shall be owned solely by Ra Pharma. The foregoing shall also apply in respect of any Gated Compound provided that in such case Ra Pharma shall file such further Product Specific Applications within [***] ([***]) months from the date Camurus has notified Ra Pharma that a Ra Pharma macrocyclic compound has passed the Gatekeeping Procedure as set forth in Section 2.5.

(c) Patent Prosecution of Joint Collaboration Patents. With respect to the Prosecution of patent applications claiming Joint Collaboration Inventions other than Joint Inventions which are Camurus Collaboration Inventions or Ra Pharma Collaboration Inventions covered by Section 7.2(b) ("Joint Collaboration Patent Rights"), Ra Pharma shall have the right to take such actions as are necessary or appropriate to Prosecute (including filing) Joint Collaboration Patent Rights [***]; *provided*, that all such patent applications and patents shall be owned jointly. Ra Pharma shall furnish Camurus with draft patent applications regarding such Joint Collaboration Patents and correspondence relating to such Joint Collaboration Patent Rights to and from patent offices throughout the Territory and Ra Pharma shall allow Camurus to comment on draft patent applications and correspondence. Ra Pharma shall obtain Camurus' written approval (including by email) prior to making any submission to a patent office. The Parties shall agree upon the countries in which patent applications directed to the Joint Collaboration Patent Rights are to be filed. If Ra Pharma determines in its sole discretion not to Prosecute any patent or patent application within the Joint Collaboration Patent Rights in any country, and provided that no other patent applications or patents claiming the same or similar subject matter are then pending or issued in that same country, then Ra Pharma shall provide Camurus with [***] ([***]) days prior written notice (or such shorter time period that would permit Camurus a reasonable opportunity to respond in a timely manner) of such determination and Camurus shall have the right and opportunity to Prosecute such patent application or patent on behalf of the Parties [***]. Camurus shall provide Ra Pharma the same information and rights required above to be provided to Camurus concerning the Prosecution of such Patent Rights.

(d) Each Party shall at the expense of the requesting Party execute such documents and take such other actions as may be reasonably requested by the other Party in conjunction with prosecution of patents pursuant to this Section 7.3.

7.4 Combined Patent Rights: If, after the Effective Date, any patent filing is desired which is related both to: (i) FC Technology alone or to FC Technology incorporating other active substances or products to the extent not containing a Drug or constituting a Product, on the one hand; and (ii) a Product, on the other hand, and patent claims directed to each of (i) and (ii) can be made based on the same data or study result, the Parties shall coordinate the filing of two patent applications on the same day. The claims of the application relating to (i) shall be directed to the FC Technology alone and/or in combination with active substances, but in all cases not specifically claiming a Drug or Product and further in all cases containing within the application a clear provision disclaiming the Drug and/or Product; and claims of the application relating to (ii) shall be directed solely to the Product. Any such applications having claims specifically and solely to a Product shall become part of the Ra Pharma Product IP and any such applications relating to (i) shall become part of Camurus Platform IP hereunder. For clarity, Camurus may disclose, as examples, in its patent applications Collaboration Inventions regarding the Product as long as Camurus does not specifically disclose the Product in any claim, provided that Ra Pharma has prior thereto or concurrently therewith submitted a patent application disclosing such examples.

7.5 Employee Assignment: Each Party shall ensure that any employee of that Party involved in the performance of this Agreement shall be employed on legally binding written terms which require the assignment of all Patent Rights and Know-How resulting from work carried out by that employee to the employing Party. Each Party shall be responsible for all payments to its employees or others, where required, in respect of obtaining rights to any such Patent Rights and Know-How.

7.6 Patent Term Extensions: For all patents within any Patent Rights relating to or claiming a Product for which NDA Approval has been obtained, the Parties shall use reasonable efforts, in each country where NDA Approval for a Product has been obtained and the law of such country permits application for a patent term extension (or any supplementary certificate), to apply for a patent term extension (or any supplementary certificate) for one or more selected patent within such Patent Rights chosen [***] with respect to the Territory. Each Party agrees to cooperate with the other Party in the exercise of the authorizations granted under this Section, and to execute such documents and take such additional action as the other Party may reasonably request in connection therewith.

7.7 Third Party Intellectual Property: The Parties shall use reasonable efforts to avoid infringing or misappropriating any Third Party's Patent Rights or other intellectual property rights in conducting any of its activities under this Agreement.

7.8 In the case where either Party learns of or discovers an infringement by a Third Party of either any Camurus Platform Patents or any Patent Rights claiming the Drug, the Product or Joint Collaboration Patents by the development, manufacture or sale of any

product containing the Drug in the Field (an "Infringing Activity") may be occurring, such Party shall disclose full details of the potential infringement to the other Party. The right to prosecute such Infringing Activity is set out in Section 7.9, with respect to Patent Rights expressly claiming either the Drug or the Product or Joint Collaboration Patent, and, with respect to Camurus Platform Patents, Section 7.10.

7.9 Where an infringement of Patent Rights expressly claiming Drug or Product or of any Joint Collaboration Patents by an Infringing Activity occurs in one or more countries of the Territory, Ra Pharma shall have the first right to, but shall not be obliged to, [***] enforce the same in accordance with the below subparagraphs (i) to (iii).

(i) Ra Pharma shall have sole conduct of the claim and any proceedings including any counterclaim for invalidity or unenforceability or any declaratory judgment action and including the right to settle. Where Ra Pharma decides to commence proceedings in relation to Patent Rights claiming Drug or Product or any Joint Patents it shall be entitled to require Camurus to join Ra Pharma as co-plaintiff and Camurus shall have the right to join as co-plaintiff. In such case Camurus shall provide all necessary assistance to Ra Pharma in relation to any such proceeding and Ra Pharma shall on demand by Camurus indemnify Camurus against the costs of such activity unless Camurus elects to be separately represented (which shall be [***]), in which case such separate representation shall be [***];

(ii) if Ra Pharma succeeds in any such infringement proceedings whether at trial or by way of settlement, the proceeds of any award or damages or settlement in respect of such infringement proceedings shall first be applied to reimburse (a) [***] and (b) [***].

(iii) if Ra Pharma fails to take any such proceedings in respect of any Patent Rights embodying Collaboration Inventions that claim the Product in the Territory, Camurus may give Ra Pharma written notice requesting Ra Pharma to take such proceedings within [***] ([***]) days of the date of notice and if Ra Pharma fails to take such action within said period, Camurus shall be entitled to do so [***] in which case it shall have sole conduct of any claim or proceedings including any counterclaim for invalidity or unenforceability or any declaratory judgment action and shall be entitled to require Ra Pharma to join Camurus as co-plaintiff and Ra Pharma shall have the right to join as co-plaintiff. In such case. Ra Pharma shall provide all necessary assistance to Camurus in relation to such proceedings and Camurus shall on demand by Ra Pharma indemnify Ra Pharma against the costs of such activity, unless Ra Pharma elects to be separately represented (which shall be [***]), in which case such separate representation shall be [***]. Camurus shall have sole right to settle such proceedings (but excluding any counterclaim for invalidity or unenforceability, which shall require the written consent of Ra Pharma not to be unreasonably withheld) provided that such settlement

does not include a license under Ra Pharma Patent Rights claiming Product in which case Ra Pharma's consent to the terms of such license shall be required, such consent not to be unreasonably withheld. If Camurus succeeds in any such proceedings, the proceeds of any award or damages or settlement in respect of such proceedings shall first be applied to reimburse (a) [***] and (b) [***].

7.10 Where an infringement of Camurus Platform Patents by an Infringing Activity is occurring in one or more countries of the Territory, Camurus shall have the right to, but shall not be obliged to, [***] enforce the same. If Camurus elects not to enforce the Camurus Platform Patents, then Ra Pharma shall have the right to do so subject the prior written consent of Camurus. If Camurus gives such consent, then the following procedures shall apply in these circumstances:

(i) Where Ra Pharma has requested and been granted approval by Camurus to commence proceedings in relation to Camurus Platform Patents it shall be entitled to require Camurus to join Ra Pharma as co-plaintiff and Camurus shall have the right to join as co-plaintiff. In such case Camurus shall provide all necessary assistance to Ra Pharma in relation to any such proceeding Ra Pharma shall on demand by Camurus indemnify Camurus against the costs of such activity unless Camurus elects to be separately represented (which shall be [***]), in which case such separate representation shall be [***];

(ii) if Ra Pharma succeeds in any such infringement proceedings whether at trial or by way of settlement, the proceeds of any award or damages or settlement in respect of such infringement proceedings shall first be applied to reimburse (a) [***] and (b) [***];

(iii) Ra Pharma shall not enter into a settlement, consent judgment or other voluntary final disposition of an action or claim or counterclaim under this Section 7.10 without the prior written approval of Camurus, not to be unreasonably withheld, conditioned or delayed.

7.11 Hatch-Waxman Certifications: If either Party (i) reasonably believes that a Third Party may be filing or preparing or seeking to file a generic or abridged NDA that refers to or relies on regulatory documentation for a Product that was submitted by Ra Pharma to any Regulatory Authority, (ii) receives any notice of certification regarding any Patent Rights included in Camurus Patent Rights or Ra Pharma Patent Rights pursuant to the Hatch-Waxman Act claiming that any such Patent Rights are invalid or unenforceable or claiming that the any such Patent Rights will not be infringed by the manufacture, use, marketing or sale of a product for which an ANDA is filed, or (iii) receives any equivalent or similar certification or notice in any other jurisdiction, it shall notify the other Party in writing, identifying the alleged applicant or potential applicant and furnishing the information upon which such determination is based, and

provide the other Party a copy of any such notice of certification within [***] ([***]) days of receipt and the Parties' rights and obligations with respect to any legal action as a result of such certification shall be as set forth above in Sections 7.9 or 7.10.

8 CONFIDENTIALITY

8.1 Except to the extent expressly authorized by this Agreement including in Sections 8.3 and 8.4 or otherwise agreed in writing, each Recipient and its Affiliates and its Sublicensees and licensees in possession of Confidential Information shall maintain such Confidential Information as confidential and use it only for the purposes of this Agreement in accordance with this Section 8. This obligation shall continue for a period equal to the longer of: (a) [***] ([***]) years after the date of expiration or termination of this Agreement; or (b) for so long as the exceptions set out below in the next subsequent paragraph do not apply to the relevant Confidential Information. Each Party shall guard such Confidential Information using the same degree of care as it normally uses to guard its own confidential, proprietary information of like importance, but in any event no less than reasonable care. Notwithstanding the foregoing, the Recipient of the categories of Confidential Information identified in Section 1.12 inclusive shall be relieved of the confidentiality and limited use obligations of this Agreement to the extent that the Recipient establishes by written evidence that:

(i) the Confidential Information was previously known to the Recipient from sources other than the Disclosing Party at the time of disclosure and other than under an obligation of confidentiality and non-use;

(ii) the Confidential Information was generally available to the public or otherwise part of the public domain at the time of its disclosure; or

(iii) the Confidential Information became generally available to the public or otherwise part of the public domain after its disclosure to the Recipient other than through any act or omission of the Recipient in breach of this Agreement; or

(iv) the Confidential Information is acquired in good faith in the future by the Recipient from a Third Party who has a lawful right to disclose such information and who is not under an obligation of confidence to the Disclosing Party with respect to such information; or

(v) the Confidential Information is subsequently developed by or on behalf of the Recipient without use of the Disclosing Party's Confidential Information.

8.2 For clarity, specific aspects or details of Confidential Information shall not be deemed to be within the public domain or in the possession of the Recipient merely because the Confidential Information is embraced by more general information in the public domain or in the possession of the Recipient. Further, any combination of Confidential Information shall not be considered in the public domain or in the possession of the Recipient merely because individual elements of such Confidential Information are in the public domain or in the possession of the Recipient unless the combination is in the public domain or in the possession of the Recipient.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

8.3 Notwithstanding the above obligations of confidentiality and non-use a Recipient may:

(i) disclose Confidential Information to a Regulatory Authority as reasonably necessary to obtain Regulatory Approval in a particular jurisdiction to the extent consistent with the licenses granted under terms of this Agreement; and

(ii) disclose Confidential Information: (a) to the extent such disclosure is reasonably necessary to comply with the order of a court; or (b) to the extent such disclosure is required to comply with a legal requirement, including to the extent such disclosure is required in publicly filed financial statements or other public statements under rules governing a stock exchange (e.g., the rules of the United States Securities and Exchange Commission, NASDAQ, NYSE, or any other stock exchange on which securities issued by either Party may be listed); provided, to the extent possible bearing in mind such legal requirements and subject to the next subsequent sentence of this Section 8.3(ii), such Party shall provide the other Party with a copy of the proposed text of such statements or disclosure [***] ([***]) business days in advance of the date on which the disclosure is to be made to enable the other Party to review and provide comments, unless a shorter review time is agreed. If compliance with a legal requirement requires filing of this Agreement, the filing Party shall to the extent possible seek confidential treatment of portions of this Agreement from the relevant competent authority and shall provide the other Party with a copy of the proposed filings at least [***] ([***]) business days prior to filing for the other Party to review any such proposed filing. Each Party agrees that it will obtain its own legal advice with regard to its compliance with legal requirements and will not rely on any statements made by the other Party relating to such legal requirements; and

(iii) disclose Confidential Information by filing or prosecuting Patent Rights, the filing or prosecution of which is contemplated by this Agreement, without violating the above secrecy provision; it being understood that publication of such filings occurs in some jurisdictions within eighteen (18) months of filing, and that such publication shall not violate the above secrecy provision; and

(iv) disclose Confidential Information to such Recipient's employees, Affiliates, contractors (including clinical researchers and CMO), licensees, agents, consultants and potential business partners, as such Recipient reasonably determines is necessary to receive the benefit of the licenses and rights granted or available to it under this Agreement or to fulfil its obligations pursuant to this Agreement; provided, however, any such persons must be obligated to substantially the same extent as set forth in Section 8.1 to hold in confidence and not make use of such Confidential Information for any purpose other than those permitted by this Agreement and breach by such persons of their confidentiality obligations shall be deemed a breach by the Recipient of its confidentiality obligations hereunder; and

(v) disclose Confidential Information: (a) to its actual or potential investment bankers; (b) to existing and potential investors in connection with an offering or placement of securities for purposes of obtaining financing for its business and to actual and prospective lenders for the purpose of obtaining financing for its business and to

potential licensees to the FC Technology; and (c) to a bona fide potential acquirer or merger partner for the purposes of evaluating entering into a merger or acquisition, provided, however, any such persons must be obligated to substantially the same extent as set forth in Section 8.1 to hold in confidence and not make use of such Confidential Information for any purpose other than those permitted by this Agreement; and

(vi) disclose Confidential Information to its legal advisers for the purpose of seeking advice.

8.4 Nothing in this Section 8 restricts either Party from using or disclosing any of its own Confidential Information for any purpose whatsoever; provided that, to the extent Know-How is exclusively licensed by one Party to the other, the licensor may not continue to use and disclose such Know-How in a manner not consistent with the exclusivity of the license granted.

8.5 Other than the press release pertaining to this transaction that the Parties have agreed upon and attached as Exhibit 8.5 to this Agreement and save as permitted in Section 8.2:

(i) neither Party shall make any public announcement or statement to the public containing Confidential Information without the prior written consent of the other. No such public announcements or statements shall be made without the prior review and consent of the appropriate individual designated for the purpose by the other Party; and

(ii) save as may otherwise be provided herein neither Party shall mention or otherwise use the name or Trademark of the other Party or its Affiliates in any publication, press release, promotional material or other form of publicity without the prior written consent of the appropriate individual designated for the purpose by the other Party.

8.6 With respect to public disclosure required to be made pursuant to regulatory requirements or stock exchange rules applicable to a Party, each such Party will use reasonable efforts to submit to the other Party a draft of any public announcement ("Proposed Disclosure") related to the Product for review and comment at least [***] ([***]) business days prior to the date on which such Party plans to make such announcement, and in any event will submit such draft to the other Party at least [***] prior to the release of such Proposed Disclosure, and will review and consider in good faith any comments provided in response by the other Party. If a Party is unable to comply with the foregoing [***] notice requirement because of a legal obligation or stock or securities exchange requirement to make more rapid disclosure, such Party will not be in breach of this Agreement but will in that case give telephone notice to a senior executive of the other Party and provide a draft of the Proposed Disclosure with as much notice as possible prior to the release of such announcement.

8.7 Notwithstanding the foregoing, Camurus shall be entitled to include the name of Ra Pharma within a list of collaborators.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

9 REPRESENTATIONS AND WARRANTIES

9.1 Mutual Representations and Warranties of Camurus and Ra Pharma

Each of Camurus and Ra Pharma hereby represents and warrants to the other Party as of the Effective Date as follows:

(a) It is duly organized, validly existing and in good standing under the laws of the jurisdiction of incorporation. It has the requisite legal and company power and authority to conduct its business as presently being conducted and as proposed to be conducted by it and is duly qualified to do business in those jurisdictions where its ownership of property or the conduct of its business requires;

(b) It has all requisite legal and company power and authority to enter into this Agreement and to grant the rights described herein. All company actions on its part, its boards of directors or managers, or similar governing body and its equity holders necessary for (i) the authorization, execution, delivery and performance by it of this Agreement, and (ii) the consummation of the transactions contemplated hereby, have been duly taken;

(c) This Agreement is a legally valid and binding obligation of it, enforceable against it in accordance with its terms (except in all cases as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, or similar laws affecting the enforcement of creditors' rights generally and except that the availability of the equitable remedy of specific performance or injunctive relief is subject to the discretion of the court or other tribunal before which any proceeding may be brought); and

(d) Each Party has and shall continue to have written contracts with all Third Parties (including employees and subcontractors) performing services on its behalf under this Agreement where such services are intended to create inventions that may be Collaboration Inventions that assign to such Party all Collaboration Inventions and rights therein.

9.2 Additional Representations and Warranties of Camurus

Camurus hereby further represents and warrants to Ra Pharma as of the Effective Date that:

(a) Camurus is not aware of any pending actions, suits or other proceedings against it that question the validity of any issued Camurus Platform Patents;

(b) Camurus is not aware that any of the issued claims of Camurus Platform Patents are invalid;

(c) To the extent necessary to grant Ra Pharma the rights provided for in this Agreement, Camurus owns or Controls sufficient rights in the Camurus Platform IP;

(d) Camurus, to its knowledge and belief, has supplied Ra Pharma with all material documentation and information, possessed by Camurus with a right to disclose the same to Ra Pharma and which have been requested by Ra Pharma, during the course of due diligence prior to execution of this Agreement; and

(e) Camurus has not received any oral or written claims, or demands from any Third Party that the research, development, manufacture, use, sale or import of the Camurus Platform IP or the FC Technology aspects of the Product(s) planned to be developed under this Agreement infringe or may infringe or misappropriate the Intellectual Property of any Third Party, and Camurus has no knowledge that a Third Party has any basis for such a claim.

Notwithstanding anything to the contrary in this Agreement, a Party shall not be entitled to make any claims or bring any action against the other Party based on warranties or representations extended under this Agreement to the extent that the circumstances giving rise to such claim or action were known by or disclosed to the claiming Party prior to the Effective Date or could reasonably have been inferred from information disclosed by the other Party.

9.3 Disclaimer of Warranties

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT OR MANDATED BY APPLICABLE LAW (WITHOUT THE RIGHT TO WAIVE OR DISCLAIM), NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY WITH RESPECT TO THE LICENSED COMPOUNDS, PRODUCTS, ANY TECHNOLOGY, GOODS, SERVICES, RIGHTS, OR OTHER SUBJECT MATTER OF THIS AGREEMENT AND HEREBY DISCLAIMS ALL WARRANTIES, CONDITIONS OR REPRESENTATIONS OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF PERFORMANCE, MERCHANTABILITY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS

10 INDEMNIFICATION

10.1 Indemnification by Ra Pharma: Except to the extent required to be indemnified by Camurus under Section 10.2, Ra Pharma shall indemnify, defend and hold harmless Camurus, its Affiliates, and its and their respective, directors, officers, employees and agents (collectively the "Camurus Indemnified Party") against any and all claims, liabilities, losses, damages, costs or expenses, including reasonable attorneys' fees, arising out of any claim or action brought by a Third Party (collectively, "Losses") incurred or suffered by the Camurus Indemnified Party to the extent arising out of or caused by:

(i) the development, use, manufacture distribution, marketing, promotion or sale of Product by or on behalf of Ra Pharma or its Affiliates or Sublicensees in the Territory (including any claims based upon product liability and any claims arising from Camurus or its Affiliates provision of services under the Agreement), unless such Losses relate to or arise from (a) Camurus' or any Camurus Indemnified Party's negligence or willful misconduct, or (b)

infringement or alleged infringement of any Third Party's intellectual property rights by use of the FC Technology; or

(ii) the breach by Ra Pharma of one or more of its representations, warranties or other obligations under this Agreement.

10.2 Indemnification by Camurus: Except to the extent required to be indemnified by Ra Pharma under Section 10.1, Camurus shall indemnify, defend and hold harmless Ra Pharma, its Affiliates, and its and their respective, directors, officers, employees and agents (collectively the "Ra Pharma Indemnified Party") against any and all Losses (as defined above) incurred or suffered by the Ra Pharma Indemnified Party to the extent arising out of or caused by

(i) the breach by Camurus of one or more of its representations, warranties or other obligations under this Agreement; unless such Losses relate to or arise from Ra Pharma or Ra Pharma Indemnified Party's negligence or willful misconduct.

10.3 Notification of Liabilities/Losses: In the event that either Party intends to seek indemnification for any claim under any of Clauses 10.1 or 10.2, it shall inform the other Party of the claim promptly after receiving notice of the claim.

(i) In the case of a claim for which Camurus seeks indemnification under Section 10.1, Camurus shall permit Ra Pharma to direct and control the defence of the claim and shall provide such reasonable assistance as is reasonably requested by Ra Pharma (at Ra Pharma's cost) in the defence of the claim; provided that nothing in this Section 10.3 shall permit Ra Pharma to make any admission on behalf of Camurus, or to settle any claim or litigation which would impose any financial obligations on Camurus without the prior written consent of Camurus, such consent not to be unreasonably withheld or delayed.

(ii) In the case of a claim for which Ra Pharma seeks indemnification under Section 10.2, Ra Pharma shall permit Camurus to direct and control the defence of the claim and shall provide such reasonable assistance as is reasonably requested by Camurus (at Camurus' cost) in the defence of the claim, provided always that nothing in this Clause 10.3 shall permit Camurus to make any admission on behalf of Ra Pharma, or to settle any claim or litigation which would impose any financial obligations on Ra Pharma without the prior written consent of Ra Pharma, such consent not to be unreasonably withheld or delayed.

10.4 Right to Participate in Defense. Without limiting Section 10.3, any indemnitee will be entitled to participate in, but not control, the defense of a Third Party claim for which it has sought indemnification hereunder and to employ counsel of its choice for such purpose; provided, however, that such employment will be at the indemnitee's own expense unless (a) the employment and reimbursement thereof has been specifically authorized by the indemnifying Party in writing, or (b) the indemnifying Party has failed to assume the defense and employ counsel in accordance with Section 10.3 (in which case the indemnified Party will control the defense).

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

10.5 Cooperation: If the indemnifying Party chooses to defend or prosecute any Third Party claim, the indemnified Party will, and will cause each other indemnitee to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection with such Third Party claim. Such cooperation will include access during normal business hours afforded to the indemnifying Party to, and reasonable retention by the indemnified Party of, records and information that are reasonably relevant to such Third Party claim, and making indemnities and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the indemnifying Party will reimburse the indemnified Party for all of its reasonable out-of-pocket expenses incurred in connection with such cooperation.

10.6 Neither Party limits or excludes its liability for fraudulent misrepresentation nor for death or personal injury arising from its negligence.

10.7 Exclusive Remedy: Each Party agrees that its sole and exclusive remedy with respect to Losses shall be pursuant to the indemnification provisions of this Section 10.

10.8 Insurance: Immediately upon the first administration of a Product to a human in the Territory by Ra Pharma, its Affiliates or its permitted Sublicensees, and for a period of [***] ([***]) years after the expiration of this Agreement or the earlier termination thereof, Ra Pharma shall maintain a Commercial General Liability Insurance Policy with limits of not less than [***] US Dollars (US$ [***]) per occurrence and [***] US Dollars (US$ [***]) in the aggregate; and a Product/Clinical Trial Liability Insurance policy with limits of at least [***] US Dollars (US$ [***]) per occurrence and [***] US Dollars (US$ [***]) in the aggregate. Both policies shall include contractual liability coverage, and any combination of Primary and Excess/Umbrella Policies may be utilized to maintain the required limits. Upon written request, the insuring Party shall provide the other Party with a certificate of insurance attesting to such coverage. It is understood and agreed that this insurance shall not be construed to limit either Party's liability with respect to its indemnification obligations hereunder.

11 TERM AND TERMINATION

11.1 Term of Agreement

This Agreement shall become effective as of the Effective Date and, unless earlier terminated pursuant to other provisions of this Section 11, shall continue in full force and effect until the expiration of all Royalty Terms (the "Term"). On a country-by- country and Product-by-Product basis, after expiration of the Royalty Term for the Product in each country in the Territory, Ra Pharma shall have a royalty-free, non- exclusive license to develop, make, have made, use, import, market, promote, distribute, sell, and offer for sale and otherwise exploit such Product in such country.

11.2 Ra Pharma may terminate this Agreement without cause on a Product-by-Product basis or in its entirety at any time by giving not less than three (3) months prior written notice.

11.3 Termination for Material Breach or Bankruptcy

(a) Upon the material breach by one Party under this Agreement, the other Party shall notify the breaching Party of such breach and require that the breaching Party cure such breach within sixty (60) days (or, in the case of payment defaults, within thirty (30) days).

(b) In the event that a material breach by Ra Pharma is not cured within the applicable cure period and without limiting other available remedies, Camurus shall have the right to terminate this Agreement upon written notice within thirty (30) days thereafter and all licenses granted by Camurus to Ra Pharma hereunder shall terminate, subject to the terms of Section 11.4.

(c) In the event that a material breach by Camurus is not cured within the applicable cure period and without limiting other available remedies, Ra Pharma shall have the right to terminate this Agreement upon written notice within thirty (30) days thereafter, all licenses and rights granted by Ra Pharma to Camurus hereunder shall terminate, subject to the terms of Section 11.4, and, at Ra Pharma's option, all licenses granted by Camurus to Ra Pharma hereunder shall continue in full force and effect, subject to the continuing obligation to pay milestone payments, license fees, Royalties and sales milestones. Upon such termination by Ra Pharma for such Camurus material breach, (i) Camurus' obligations hereunder to provide Know-How and other materials and information to enable the use of such licenses shall continue; and (ii) Camurus' right to cross-reference and use any Development Data shall terminate except in respect of (x) rights which were previously granted by Camurus to a licensee in the Territory prior to the date of any Third Party, and (y) Camurus' right to reference Placebo Development Data solely in connection with filing, maintaining, enforcing and defending patent applications and patents covering Camurus Collaboration Inventions.

(d) Right to Terminate upon Bankruptcy. Either Party may, without limiting other available remedies, terminate this Agreement, in whole by notice to the other Party in the event (a) the other Party shall have become bankrupt or shall have made an assignment for the benefit of its creditors; (b) there shall have been appointed a trustee or receiver for the other Party or for all or a substantial part of its property; or (c) any case or proceeding shall have been commenced or other action taken by or against the other Party in bankruptcy or seeking reorganization, liquidation, dissolution, winding-up, arrangement, composition or readjustment of its debts or any other relief under any bankruptcy, insolvency, reorganization or other similar act or law of any jurisdiction now or hereafter in effect, and any such event shall have continued for sixty (60) days undisputed, undismissed, unbonded and/or undischarged.

11.4 Effect of Termination: Upon termination of this Agreement by either Party for any reason (other than termination by Ra Pharma pursuant to Section 11.3):

(a) all licenses granted by Camurus shall terminate (including all rights to use any Camurus Platform IP);

(b) Camurus licenses and rights under Sections 2.4, 3.7 and 7.2(g) shall continue, subject to all indemnity and other obligations of Camurus hereunder in respect thereof;

(c) Ra Pharma shall discontinue Prosecution of any Patent Rights claiming solely the Product; and

(d) Accrued Rights. Termination of this Agreement for any reason will be without prejudice to any rights that will have accrued to the benefit of a Party prior to the effective date of such termination. Such termination will not relieve a Party from obligations that are expressly indicated to survive the termination of this Agreement.

11.5 Termination for Patent Challenge: In the event that either Party or any of its Affiliates or Sublicensees commences or otherwise pursues, directly or indirectly (or voluntarily assists Third Parties to do so, other than as required by law or legal process), any proceeding seeking to have any of the other Party's Patent Rights forming part of Camurus Platform IP or Ra Pharma Product IP, as the case may be, revoked or declared invalid, unpatentable, or unenforceable, the other Party may declare a material breach hereunder with immediate effect. Furthermore, Camurus shall have the right to declare material breach hereunder with immediate effect if Ra Pharma claims that any of the Camurus Platform IP is invalid as a reason for not paying full royalties.

11.6 Surviving Provisions: Except as otherwise provided in Section 11.30 above, in addition to the Sections that are expressly stated to survive termination, the following Sections of this Agreement shall survive any expiration or termination of this Agreement for any reason: Sections 8, 10 and 12.13.

12 MISCELLANEOUS PROVISIONS

12.1 Consequential Damages

IN NO EVENT SHALL EITHER PARTY OR THEIR AFFILIATES BE LIABLE FOR SPECIAL, PUNITIVE, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES AS WELL AS LOST PROFITS, WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY AND IRRESPECTIVE OF WHETHER SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF ANY SUCH LOSS OR DAMAGE; *PROVIDED*, THAT THIS LIMITATION SHALL NOT LIMIT THE INDEMNIFICATION OBLIGATION OF SUCH PARTY UNDER THE PROVISIONS OF SECTION 10 FOR SUCH DAMAGES CLAIMED BY A THIRD PARTY AND NOTHING IN THIS SECTION 12.1 IS INTENDED TO LIMIT RA PHARMA'S PAYMENT OBLIGATIONS UNDER SECTION 5.

12.2 Assignment: Neither Party shall have the right to assign this Agreement, nor any of its rights hereunder, nor delegate any of its obligations hereunder, without the prior

written consent of the other Party, which shall not be unreasonably withheld or delayed. Notwithstanding the foregoing, (i) Camurus and Ra Pharma may assign this Agreement to any purchaser of all or substantially all of its assets or to any successor entity resulting from any merger or consolidation of Camurus or Ra Pharma with or into such entity, or (ii) Camurus and Ra Pharma may assign this Agreement to any of its Affiliates but only for as long as such Affiliate remains an Affiliate of the assigning Party provided that such Affiliate agrees to be bound hereunder. Any attempt to assign this Agreement in breach of the foregoing shall be void. This Agreement shall be binding upon and inure to the benefit of the Parties hereto and each of their successors and permitted assigns.

12.3 Further Actions: Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

12.4 Compliance with Laws: Each Party shall review in good faith and cooperate in taking actions to ensure compliance of this Agreement and the Parties' activities hereunder with all applicable laws, rules, ordinances, regulations and guidelines. Each Party shall provide the other Party such reasonable assistance as may be required for the Party requesting such assistance to comply with all such laws, rules, ordinances, regulations and guidelines of all governmental entities, bureaus, and agencies having jurisdiction pertaining to this Agreement, including obtaining all import, export and other permits, certificates, licenses or the like required by such laws, rules, ordinances, regulations and guidelines necessary to permit the Parties to perform hereunder and to exercise their respective rights hereunder.

12.5 Force Majeure: Neither Party shall be responsible or liable in any way for failure or delay in carrying out the terms of this Agreement (other than any payment or confidentiality obligations) resulting from fire, flood, other natural disasters, war, labor difficulties, interruption of transit, accident, explosion, civil commotion, and acts of any governmental authority; *provided*, that the Party so affected shall give prompt notice thereof to the other. If any such cause prevents either Party from performing any of its material obligations hereunder for more than ninety (90) days, the other Party may then terminate this Agreement upon thirty (30) days prior notice. Except as provided in the preceding sentence, no such failure or delay shall terminate this Agreement, and each Party shall complete its obligations hereunder as promptly as reasonably practicable following cessation of the cause or circumstances of such failure or delay.

12.6 Notices: All notices and other communications hereunder shall be in writing and shall be deemed given when delivered personally or by facsimile transmission (receipt verified), [***] ([***]) days after mailed by registered or certified air mail (return receipt requested), postage prepaid, or [***] ([***]) days after sent by express courier service, to the Parties at the following addresses (or at such other address for a Party as shall be specified by like notice; *provided*, that notices of a change of address shall be effective only upon receipt thereof):

If to Camurus, addressed to:

Camurus AB
att: CEO
Ideon Science Park, Sölvegatan 41, 223 62 Lund, Sweden

If to Ra Pharma, addressed to:

Ra Pharma
att: CEO
87 Cambridge Park Drive,
Cambridge, Massachusetts

12.7 Amendment: No amendment, modification or supplement of any provision of this Agreement shall be valid or effective unless made in a writing that explicitly refers to this Agreement and that is signed by a duly authorized officer of each Party.

12.8 Waiver: Except to the extent otherwise expressly set forth in this Agreement, the rights and remedies of the Parties set forth herein or otherwise available at law or equity are cumulative and not alternative. No provision of this Agreement shall be waived by any act, omission or knowledge of any Party or its agents or employees except by an instrument in writing expressly waiving such provision and signed by a duly authorized officer of the waiving Party.

12.9 Counterparts: This Agreement shall be executed in two or more counterparts, each of which shall contain the signature of the Parties and all such counterparts shall constitute one and the same agreement.

12.10 Descriptive Headings: The descriptive headings of this Agreement are for convenience only, and shall be of no force or effect in construing or interpreting any of the provisions of this Agreement.

12.11 Severability: Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement and the Parties shall in good faith seek to agree on an alternative provision reflecting the intent of the Parties that is enforceable.

12.12 Entire Agreement: This Agreement shall constitute and contain the complete, final and exclusive understanding and agreement of the Parties and cancels and supersedes any and all prior negotiations, correspondence, understandings and agreements, whether oral or written, between the Parties with respect to the subject matter hereof. The Confidentiality Agreement previously entered into between the Parties shall terminate as of the Effective Date and the Parties rights and obligations in respect of the Confidential Information disclosed under the Confidentiality Agreement shall be governed by this Agreement.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

12.13 Governing Law: This Agreement and all disputes arising out of it (including non- contractual disputes) shall be governed by and interpreted in accordance with the substantive laws of England and Wales, without regard to the choice of law provisions thereof.

12.14 Dispute Resolution

(a) The Parties recognize that a bona fide dispute as to certain matters may from time to time arise during the Term of this Agreement that relate to any Party's rights or obligations hereunder. In the event of the occurrence of any dispute arising out of or relating to this Agreement, including any question regarding its existence, validity or termination, either Party may, by written notice to the other, have such dispute referred to its respective officer designated below or their successors, for attempted resolution by good faith negotiations within [***] ([***]) days after such notice is received. If either Party desires to pursue arbitration under paragraph (b) below to resolve any such dispute, a referral to such executives under this paragraph (a) shall be a mandatory condition precedent. Said designated officers are as follows.

For Camurus: Chief Executive Officer

For Ra Pharma: Chief Executive Officer

(b) In the event that they shall be unable to resolve the dispute by executive mediation within such [***] ([***]) day period, then subject to Section 7.2, the dispute shall be finally settled by confidential, binding arbitration as provided below.

(c) Any arbitration proceeding shall be administered by the Arbitration Institute of International Chamber of Commerce. The place of arbitration shall be London, England. The arbitration shall be conducted in English. The award of arbitration shall be final and binding upon both Parties.

(d) The procedures specified in this Section 12.14 shall be the sole and exclusive procedures for the resolution of disputes between the Parties arising out of or relating to this Agreement; *provided*, that a Party, without prejudice to the above procedures, may seek injunctive relief or other provisional judicial relief if in its sole judgment such action is necessary to avoid irreparable damage. Despite such action the Parties shall continue to participate in good faith in the procedures specified in this Section 12.14.

12.15 Independent Contractors: Nothing herein shall be construed to create any relationship of employer and employee, agent and principal, partnership or joint venture between the Parties. Each Party is an independent contractor. Neither Party shall have authority to make any statements, representations, or commitments of any kind, or to take any action which shall be binding on the other Party, except as may be explicitly provided for herein or otherwise authorized in writing.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

[Remainder of Page Intentionally Left Blank - Signature Pages to Follow]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

This Agreement has been executed in two (2) original copies of which the (Parties) have taken one (1) each. The Agreement shall come into force on the date given at the beginning of this Agreement.

For and on behalf of Camurus AB

Date:

Full name: Fredrik Tiberg

Position: CEO

For and on behalf of Ra Pharma Inc.,

Date:
Full name:

Position:

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

EXHIBIT 1.4
CAMURUS PLATFORM IP AND

CAMURUS PLATFORM PATENT RIGHTS

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

EXHIBIT 1.6
CAMURUS TRADEMARKS

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

EXHIBIT 1.16 DEVELOPMENT PLAN

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

EXHIBIT 1.18
DRUG CHEMICAL STRUCTURE

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

EXHIBIT 1.18(b) Metabolites

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

EXHIBIT 7.2 (c)
EXPERT'S DETERMINATION

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

EXHIBIT 8.5
PRESS RELEASE

Ra Pharmaceuticals and Camurus Announce Exclusive License Agreement for FluidCrystal® Extended Release Formulation of Zilucoplan

FluidCrystal® extended release formulation of zilucoplan achieved rapid and sustained pharmacodynamic inhibition of complement C5 in non-human primates, supporting at least once weekly dosing

Cambridge, Mass., and Lund, Sweden — July 16, 2019 —Ra Pharmaceuticals, Inc. (Nasdaq: RARX) and Camurus AB (Nasdaq STO: CAMX) today announced an exclusive worldwide license agreement for the use of Camurus's proprietary FluidCrystal® (FC) technology to develop, manufacture, and commercialize a long-acting formulation of zilucoplan, Ra Pharma's complement component 5 (C5) inhibitor in development for the treatment of multiple complement-mediated disorders.

"Ra is committed to delivering convenient and accessible products for managing C5-mediated diseases. Building on the strength of our daily formulation, which offers a quick, low volume injection and room temperature storage, the FluidCrystal® extended release (XR) formulation of zilucoplan has the potential to control disease for at least seven days from a single subcutaneous dose without the need for intravenous loading, on-body infusion devices, tissue-degrading enzymes, or permeation enhancers. The promising data from our pre-clinical studies conducted with Camurus, the potential for cost-effective manufacturing, and Camurus's proven late-stage regulatory experience with FluidCrystal® were compelling reasons to add the FluidCrystal® technology into our zilucoplan XR life- cycle extension program," said Doug Treco, Ph.D., President and Chief Executive Officer of Ra Pharma.

In pre-clinical testing, a single dose of the FC XR formulation of zilucoplan in non-human primates rapidly achieved and maintained target levels of complement inhibition for at least seven days without the need for an intravenous loading regimen (see Figure 1 below).

"The partnership with Ra Pharma follows the successful completion of a feasibility study of the FluidCrystal® extended release zilucoplan injection, which met formulation, pharmacokinetic, and tolerability target specifications," said Fredrik Tiberg, President & CEO of Camurus. "We look forward to the next phase of our collaboration with Ra Pharma and initiating clinical development of a new promising product candidate based on our unique FluidCrystal® technology."

Under the agreement, Camurus will receive an upfront payment of $2 million and is eligible to receive up to $14.5 million in development milestones and other license payments, up to $55 million in sales milestones, and tiered single digit royalty payments on product sales related to the FC XR formulation of zilucoplan.

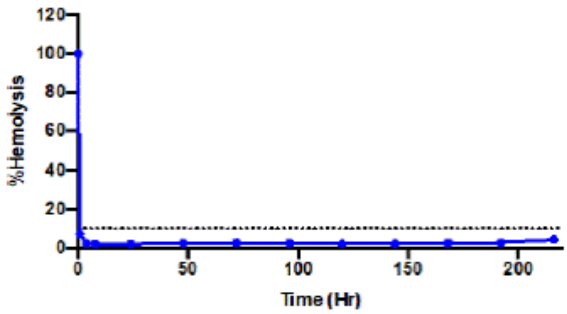

Figure 1: *Inhibition of ex-vivo sheep red blood cell hemolysis assay following a single subcutaneous dose of FC XR formulation of zilucoplan in cynomolgus monkeys (mean±sem, n=4).*

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

About Zilucoplan

Ra Pharma is developing zilucoplan and zilucoplan extended release (XR) for generalized myasthenia gravis (gMG), immune-mediated necrotizing myopathy (IMNM), and other tissue-based, complement- mediated disorders with high unmet medical need. The product candidates are designed for convenient subcutaneous (SC) self-administration. Zilucoplan is an investigational, synthetic, macrocyclic peptide discovered using Ra Pharma's powerful proprietary drug discovery technology. The peptide is designed to bind complement component 5 (C5) with sub-nanomolar affinity and allosterically inhibit its cleavage into C5a and C5b upon activation of the classical, alternative, or lectin pathways.

About FluidCrystal® Injection Depot

The FluidCrystal® injection depot delivers therapeutic levels of drug substance over selected extended periods — from days to months — from a single injection. The FluidCrystal® injection depot offers a liquid solution that transforms into a controlled release, biodegradable liquid crystal gel matrix in situ on contact with minute quantities of aqueous fluid at the injection site. Medicines based on the FluidCrystal® injection depot can be administered by the patients themselves or by healthcare professionals, without time-consuming and complicated reconstitution procedures. The technology is validated by approvals of Buvidal® in the EU and Australia and by the Brixadi™ tentative approval in the US and has been studied in more than 20 completed clinical trials. FluidCrystal® is a registered trademark of Camurus AB.

About Ra Pharmaceuticals

Ra Pharmaceuticals is a clinical-stage biopharmaceutical company focused on leading the field of complement biology to bring innovative and accessible therapies to patients with rare diseases. The Company discovers and develops peptides and small molecules to target key components of the complement cascade. For more information, please visit: www.rapharma.com.

About Camurus

Camurus is a Swedish science-led biopharmaceutical company committed to developing and commercialising innovative and differentiated medicines for the treatment of severe and chronic conditions. New drug products with best-in-class potential are conceived based on the company's proprietary FluidCrystal® drug delivery technologies and its extensive R&D expertise. Camurus's clinical pipeline includes products for the treatment of cancer, endocrine diseases, pain and addiction, which are developed in-house and in collaboration with international pharmaceutical companies. The company's shares are listed on Nasdaq Stockholm under the ticker CAMX. For more information, visit www.camurus.com.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including, but not limited to, statements regarding Ra Pharma's collaboration agreement with Camurus and potential payments thereunder, statements regarding the potential, safety, efficacy, and regulatory and clinical progress of Ra Pharma's product candidates,

including without limitation the zilucoplan FluidCrystal® extended release program, beliefs regarding preclinical study data, and statements regarding trial design, timeline, and enrollment of Ra Pharma's ongoing and planned clinical programs, including without limitation the clinical development of the zilucoplan FluidCrystal® extended release formulation. All such forward-looking statements are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include the risks that Ra Pharma's product candidates, including zilucoplan, will not successfully be developed or commercialized, in the timeframe we expect or at all; as well as the other factors discussed in the "Risk Factors" section in Ra Pharma's most recently filed Annual Report on Form 10-K, as well as other risks detailed in Ra Pharma's subsequent filings with the Securities and Exchange Commission. There can be no assurance that the actual results or developments anticipated by Ra Pharma will be realized or, even if substantially realized, that they will have the expected consequences to, or effects on, Ra Pharma. All information in this press release is as of the date of the release, and Ra Pharma undertakes no duty to update this information unless required by law.

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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: November 7, 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: November 7, 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 September 30, 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: November 7, 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