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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended March 31, 2018

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 001-35726

Radius Health, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**80-0145732**
(State or other jurisdiction of Incorporation or organization)	(IRS Employer Identification Number)

950 Winter Street
Waltham, Massachusetts 02451
(Address of Principal Executive Offices and Zip Code)

(617) 551-4000
(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No ☐

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

Large accelerated filer ☒	Accelerated filer ☐
Non-accelerated filer ☐	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 ☒

Number of shares of the registrant's Common Stock, $.0001 par value per share, outstanding as of May 8, 2018: 45,458,502 shares

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RADIUS HEALTH, INC.
FORM 10-Q
FOR THE QUARTER ENDED MARCH 31, 2018

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PART I FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements

Radius Health, Inc.
Condensed Consolidated Balance Sheets
(Unaudited, in thousands, except share and per share amounts)

	March 31, 2018	December 31, 2017
	(unaudited)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 56,088	$ 118,564
Restricted cash	55	55
Marketable securities	179,453	134,714
Accounts receivable, net	8,048	4,441
Inventory	5,438	4,366
Prepaid expenses	6,429	5,175
Other current assets	2,241	2,191
Total current assets	257,752	269,506
Investments	131,750	176,978
Property and equipment, net	5,762	6,195
Intangible assets	7,981	8,180
Other assets	756	799
Total assets	$ 404,001	$ 461,658
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 4,525	$ 3,915
Accrued expenses and other current liabilities	34,849	49,512
Total current liabilities	39,374	53,427
Other non-current liabilities	165	189
Notes payable	169,284	166,006
Total liabilities	$ 208,823	$ 219,622
Commitments and contingencies		
Stockholders' equity:		
Common stock, $.0001 par value; 200,000,000 shares authorized, 45,214,387 shares and 44,616,586 shares issued and outstanding at March 31, 2018 and December 31, 2017, respectively	5	4
Additional paid-in-capital	1,140,495	1,124,630
Accumulated other comprehensive loss	(1,483)	(314)
Accumulated deficit	(943,839)	(882,284)
Total stockholders' equity	195,178	242,036
Total liabilities and stockholders' equity	$ 404,001	$ 461,658

See accompanying notes to unaudited condensed consolidated financial statements.

Radius Health, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited, in thousands, except share and per share amounts)

	Three Months Ended March 31,	
	2018	2017
REVENUES:		
Product revenue, net	$ 14,547	$ —
OPERATING EXPENSES:		
Cost of sales - product	1,088	—
Cost of sales - intangible amortization	200	—
Research and development	22,851	19,527
Selling, general and administrative	48,025	38,099
Loss from operations	(57,617)	(57,626)
OTHER (EXPENSE) INCOME:		
Other (expense) income, net	(104)	80
Interest expense	(5,566)	—
Interest income	1,732	607
NET LOSS	$ (61,555)	$ (56,939)
OTHER COMPREHENSIVE LOSS:		
Unrealized loss from available-for-sale debt securities	(1,169)	(37)
COMPREHENSIVE LOSS	$ (62,724)	$ (56,976)
LOSS ATTRIBUTABLE TO COMMON STOCKHOLDERS - BASIC AND DILUTED (Note 11)	$ (61,555)	$ (56,939)
LOSS PER SHARE:		
Basic and diluted	$ (1.37)	$ (1.32)
WEIGHTED AVERAGE SHARES:		
Basic and diluted	44,937,776	43,185,952

See accompanying notes to unaudited condensed consolidated financial statements.

Radius Health, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited, in thousands)

	Three Months Ended March 31,	
	2018	2017
CASH FLOWS USED IN OPERATING ACTIVITIES:		
Net loss	$ (61,555)	$ (56,939)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	671	252
Amortization of discount on marketable securities, net	(180)	(45)
Amortization of debt discount and debt issuance costs	3,278	—
Stock-based compensation	7,549	9,071
Changes in operating assets and liabilities:		
Inventory	(1,072)	—
Accounts receivable, net	(3,607)	—
Prepaid expenses	(1,254)	(2,300)
Other current assets	(50)	(1,933)
Other long-term assets	43	—
Accounts payable	610	599
Accrued expenses and other current liabilities	(14,641)	(1,350)
Other non-current liabilities	(24)	(119)
Net cash used in operating activities	(70,232)	(52,764)
CASH FLOWS USED IN INVESTING ACTIVITIES:		
Purchases of property and equipment	(61)	(406)
Purchases of marketable securities	(500)	(72,045)
Sales and maturities of marketable securities	—	38,447
Net cash used in investing activities	(561)	(34,004)
CASH FLOWS PROVIDED BY FINANCING ACTIVITIES:		
Proceeds from exercise of stock options and warrant exercises	6,576	1,792
Proceeds from issuance of shares under employee stock purchase plan	1,741	1,030
Net cash provided by financing activities	8,317	2,822
NET DECREASE IN CASH, CASH EQUIVALENTS, AND RESTRICTED CASH	(62,476)	(83,946)
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH AT BEGINNING OF YEAR	118,619	258,614
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH AT END OF PERIOD	$ 56,143	$ 174,668
SUPPLEMENTAL DISCLOSURES:		
Cash paid for income taxes	$ —	$ 11
Property and equipment purchases in accrued expenses at period end	$ 287	$ 1,030

See accompanying notes to unaudited condensed consolidated financial statements.

Radius Health, Inc.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Organization

Radius Health, Inc. ("Radius" or the "Company") is a science-driven fully integrated biopharmaceutical company that is committed to developing and commercializing innovative endocrine therapeutics in the areas of osteoporosis and oncology. In April 2017, the Company's first commercial product, TYMLOS® (abaloparatide) injection, was approved by the U.S. Food and Drug Administration ("FDA") for the treatment of postmenopausal women with osteoporosis at high risk for fracture defined as history of osteoporotic fracture, multiple risk factors for fracture, or patients who have failed or are intolerant to other available osteoporosis therapy. In April 2018, the Company submitted a request for re-examination of the negative opinion adopted by the Committee for Medicinal Products for Human Use ("CHMP") of the European Medicines Agency ("EMA") on the Company's European Marketing Authorisation Application ("MAA") for abaloparatide-SC. The Company's clinical pipeline includes an investigational abaloparatide transdermal patch ("abaloparatide-patch") for potential use in the treatment of postmenopausal women with osteoporosis; the investigational drug elacestrant (RAD1901), a selective estrogen receptor degrader for potential use in the treatment of hormone-receptor positive breast cancer; and the investigational drug RAD140, a non-steroidal, selective androgen receptor modulator for potential use in the treatment of hormone-receptor positive breast cancer.

The Company is subject to the risks associated with biopharmaceutical companies with a limited operating history, including dependence on key individuals, a developing business model, the necessity of securing regulatory approvals to market its investigational product candidates, market acceptance and the successful commercialization of TYMLOS, or any of the Company's investigational product candidates following receipt of regulatory approval, competition for TYMLOS or any of the Company's investigational product candidates following receipt of regulatory approval, and the continued ability to obtain adequate financing to fund the Company's future operations. The Company has incurred losses and expects to continue to incur additional losses for the foreseeable future. As of March 31, 2018, the Company had an accumulated deficit of $943.8 million, and total cash, cash equivalents, marketable securities, and investments of $367.3 million.

Based upon its cash, cash equivalents, marketable securities, and investments balance as of March 31, 2018, the Company believes that, prior to the consideration of proceeds from partnering and/or collaboration activities, it has sufficient capital to fund its development plans, U.S. commercial activities and other operational activities for not less than twelve months from the date of this filing. The Company expects to finance its commercial activities in the United States and development costs of its clinical product portfolio with its existing cash and cash equivalents, marketable securities and investments, as well as future product sales or through strategic financing opportunities that could include, but are not limited to, partnering or other collaboration agreements, future offerings of its equity, royalty based financing arrangements, or the incurrence of debt or other alternative financing arrangements which may include a combination of the foregoing. However, there is no guarantee that any of these strategic or financing opportunities will be executed or executed on favorable terms, and some could be dilutive to existing stockholders. If the Company fails to obtain additional capital, it may be unable to conduct its planned commercialization activities or complete its planned preclinical studies and clinical trials and obtain approval of certain of its investigational product candidates from the FDA or foreign regulatory authorities.

2. Basis of Presentation and Significant Accounting Policies

Basis of Presentation—The accompanying unaudited condensed consolidated financial statements and the related disclosures of the Company have been prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP") for interim financial reporting and as required by Regulation S-X, Rule 10-01. Accordingly, they do not include all the information and footnotes required by U.S. GAAP for complete financial statements. In the opinion of management, all adjustments (including those which are normal and recurring) considered necessary for a fair presentation of the interim financial information have been included.

When preparing financial statements in conformity with U.S. GAAP, the Company must make estimates and assumptions that affect the reported amounts of assets, liabilities, expenses and related disclosures at the date of the financial statements. Actual results could differ from those estimates. Additionally, operating results for the three months ended March 31, 2018 are not necessarily indicative of the results that may be expected for any other interim period or for the fiscal year ending December 31, 2018. Subsequent events have been evaluated up to the date of issuance of these financial statements. These interim condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes, which are contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2017 ("2017 Form 10-K"), filed with the Securities and Exchange Commission ("SEC") on March 1, 2018.

Certain prior period amounts have been reclassified to conform to the current period presentation.

Significant Accounting Policies—The significant accounting policies identified in the Company's 2017 Form 10-K that require the Company to make estimates and assumptions include: revenue recognition, inventory obsolescence, long-lived assets and intangible assets, accounting for stock-based compensation, contingencies, tax valuation reserves, fair value measures, and accrued expenses. There were no changes to significant accounting policies during the three months ended March 31, 2018, except for the adoption of three Accounting Standards Updates ("ASU") issued by the Financial Accounting Standards Board ("FASB"), which are detailed below.

Accounting Standards Updates, Recently Adopted—In August 2016, the FASB issued ASU No. 2016-15, *Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"). ASU 2016-15 addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice. ASU 2016-15 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The Company adopted this ASU as of January 1, 2018 and it did not have a material impact on its condensed consolidated financial statements.

In November 2016, the FASB issued ASU 2016-18, *Restricted Cash* ("ASU 2016-18"). The amendments in ASU 2016-18 require an entity to reconcile and explain the period-over-period change in total cash, cash equivalents and restricted cash within its statements of cash flows. ASU 2016-18 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. A reporting entity must apply the amendments in ASU 2016-18 using a full retrospective approach. The Company adopted this ASU as of January 1, 2018 and the reconciliation of the period-over-period change in cash and cash equivalents and restricted cash is reflected in the condensed consolidated statements of cash flows for all periods presented.

In May 2017, the FASB issued ASU 2017-09, *Compensation-Stock Compensation* (Topic 718) Scope of Modification Accounting ("ASU 2017-09"). ASU 2017-09 provides clarification on when modification accounting should be used for changes to the terms or conditions of a share-based payment award. The amendments in ASU 2017-09 are effective for all entities for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, with early adoption permitted, applied prospectively to an award modified on or after the adoption date. This ASU does not change the accounting for modifications but clarifies that modification accounting guidance should only be applied if there is a change to the value, vesting conditions, or award classification and would not be required if the changes are considered non-substantive. The Company adopted this ASU as of January 1, 2018 and it did not have a material impact on its condensed consolidated financial statements.

Accounting Standards Updates, Recently Issued—In February 2016, the FASB issued ASU No. 2016-02, *Leases* ("ASU 2016-02"). ASU 2016-02 supersedes the lease guidance under FASB ASC Topic 840, *Leases*, resulting in the creation of FASB ASC Topic 842, *Leases*. ASU 2016-02 requires a lessee to recognize in the statement of financial position a liability to make lease payments and a right-of-use asset representing its right to use the underlying asset for the lease term for both finance and operating leases. ASU 2016-02 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption is permitted. The Company is currently assessing the potential impact of adopting ASU 2016-02 on its financial statements and related disclosures.

3. Marketable Securities

Available-for-sale marketable securities and cash and cash equivalents as of March 31, 2018 and December 31, 2017 consist of the following (in thousands):

	March 31, 2018			
	Amortized Cost Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and cash equivalents:				
Cash	$ 9,981	$ —	$ —	$ 9,981
Money market funds	31,110	—	—	31,110
Domestic corporate commercial paper	14,997	—	—	14,997
Total	$ 56,088	$ —	$ —	$ 56,088
Marketable securities:				
Domestic corporate debt securities	$ 207,827	$ —	$ (1,185)	$ 206,642
Domestic corporate commercial paper	29,963	—	(12)	29,951
Agency bonds	74,896	—	(286)	74,610
Total	$ 312,686	$ —	$ (1,483)	$ 311,203

	December 31, 2017			
	Amortized Cost Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and cash equivalents:				
Cash	$ 73,302	$ —	$ —	$ 73,302
Money market funds	325	—	—	325
Domestic corporate commercial paper	44,937	—	—	44,937
Total	$ 118,564	$ —	$ —	$ 118,564
Marketable securities:				
Domestic corporate debt securities	$ 207,320	$ 1	$ (235)	$ 207,086
Domestic corporate commercial paper	29,844	—	(7)	29,837
Agency bonds	74,842	—	(73)	74,769
Total	$ 312,006	$ 1	$ (315)	$ 311,692

There were no debt securities that had been in an unrealized loss position for more than 12 months as of March 31, 2018 or December 31, 2017, respectively. There were 41 marketable securities with an aggregate fair value of $311.2 million in an unrealized loss position for less than 12 months as of March 31, 2018. There were 38 marketable securities with an aggregate fair value of $299.2 million in an unrealized loss position for less than 12 months as of December 31, 2017. The Company considered the decrease in market value for these securities to be primarily attributable to current economic conditions. As it was not more likely than not that the Company would be required to sell these securities before the recovery of their amortized cost basis, which may be at maturity, the Company did not consider these investments to be other-than-temporarily impaired as of March 31, 2018.

As of March 31, 2018, the aggregate fair value of marketable securities maturing within one year and after one year through two years was $179.4 million and $131.8 million, respectively.

4. Fair Value Measurements

The Company determines the fair value of its financial instruments based upon the fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Below are the three levels of inputs that may be used to measure fair value:

- Level 1—Quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

- Level 2—Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Transfers into or out of any hierarchy level are recognized at the end of the reporting period in which the transfers occurred. There were no material transfers between any levels during the three months ended March 31, 2018. There were no material transfers between any levels during 2017.

The following table summarizes the financial instruments measured at fair value on a recurring basis in the accompanying condensed consolidated balance sheets as of March 31, 2018 and December 31, 2017 (in thousands):

	As of March 31, 2018			
	Level 1	Level 2	Level 3	Total
Assets				
Cash and cash equivalents:				
Cash	$ 9,981	$ —	$ —	$ 9,981
Money market funds (1)	31,110	—	—	31,110
Domestic corporate commercial paper (2)	—	14,997	—	14,997
Total	$ 41,091	$ 14,997	$ —	$ 56,088
Marketable Securities				
Domestic corporate debt securities (2)	$ —	$ 206,642	$ —	$ 206,642
Domestic corporate commercial paper (2)	—	29,951	—	29,951
Agency bonds (2)	—	74,610	—	74,610
Total	$ —	$ 311,203	$ —	$ 311,203

	As of December 31, 2017			
	Level 1	Level 2	Level 3	Total
Assets				
Cash and cash equivalents:				
Cash	$ 73,302	$ —	$ —	$ 73,302
Money market funds (1)	325	—	—	325
Domestic corporate commercial paper (2)	—	44,937	—	44,937
Total	$ 73,627	$ 44,937	$ —	$ 118,564
Marketable Securities				
Domestic corporate debt securities (2)	$ —	$ 207,086	$ —	$ 207,086
Domestic corporate commercial paper (2)	—	29,837	—	29,837
Agency bonds (2)	—	74,769	—	74,769
Total	$ —	$ 311,692	$ —	$ 311,692

(1) Fair value is based upon quoted market prices.

(2) Fair value is based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the assets. Inputs are obtained from various sources, including market participants, dealers and brokers.

5. Inventory

Inventory consists of the following at March 31, 2018 (in thousands):

	March 31, 2018	December 31, 2017
Raw materials	$ 3,943	$ 3,852
Work in process	1,163	313
Finished goods	332	201
Total inventories	$ 5,438	$ 4,366

Inventory acquired prior to receipt of the marketing approval for TYMLOS, totaling approximately $1.6 million, was expensed as research and development expense as incurred. The Company began to capitalize the costs associated with the production of TYMLOS upon receipt of FDA approval on April 28, 2017.

Finished goods manufactured by the Company have a 30-month shelf life from date of manufacture.

6. Intangible Assets

The following table presents intangible assets as of March 31, 2018 (in thousands):

	March 31, 2018	Estimated useful life
Acquired and in-licensed rights	$ 8,712	11 Years
Less: accumulated amortization	(731)	
Total intangible asset, net	$ 7,981	

Acquired and in-licensed rights as of March 31, 2018 consist of the €8.0 million (approximately $8.7 million on the date paid) milestone paid to Ipsen, which was triggered by the FDA approval of TYMLOS on April 28, 2017.

The Company recorded approximately $0.2 million in amortization expense related to intangible assets, using the straight-line methodology, which is considered the best estimate of economic benefit, during the three months ended March 31, 2018. Estimated future amortization expense for intangible assets as of March 31, 2018 is approximately $0.6 million for the remainder of 2018, and approximately $0.8 million per year thereafter.

7. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	March 31, 2018	December 31, 2017
Commercial costs	$ 12,856	$ 14,300
Research costs	8,275	8,406
Payroll and employee benefits	8,435	16,934
Interest	763	3,482
Professional fees	4,425	6,295
Other current liabilities	95	95
Total accrued expenses and other current liabilities	$ 34,849	$ 49,512

8. Convertible Notes Payable

On August 14, 2017, in a registered underwritten public offering, the Company issued $300 million aggregate principal amount of 3% Convertible Senior Notes due September 1, 2024 (the "Convertible Notes"). In addition, on September 12, 2017, the Company issued an additional $5.0 million principal amount of Convertible Notes pursuant to the exercise of an over-allotment option granted to the underwriters in the offering. In accordance with accounting guidance for debt with conversion and other options, the Company separately accounted for the Liability and Equity Components of the Convertible Notes by allocating the proceeds between the Liability Component and the Equity Component, due to the Company's ability to settle the Convertible Notes in cash, common stock or a combination of cash and common stock, at its option. In connection with the issuance of the Convertible Notes, the Company incurred approximately $9.4 million of debt issuance costs, which primarily consisted of underwriting, legal and other professional fees, and allocated these costs to the Liability and Equity Components based on the

allocation of the proceeds. Of the total $9.4 million of debt issuance costs, $4.3 million was allocated to the Equity Component and recorded as a reduction to additional paid-in capital and $5.1 million was allocated to the liability component and is now recorded as a reduction of the Convertible Notes in the Company's condensed consolidated balance sheet. The portion allocated to the liability component is amortized to interest expense using the effective interest method over seven years.

The Convertible Notes are senior unsecured obligations of the Company and bear interest at a rate of 3.00% per annum, payable semi-annually in arrears on March 1 and September 1, beginning on March 1, 2018. Upon conversion, the Convertible Notes will be convertible into cash, shares of the Company's common stock or a combination of cash and shares of the Company's common stock, at the Company's election. Prior to December 31, 2017, the Convertible Notes were not convertible except in connection with a make whole fundamental change, as defined in the respective indentures. The Convertible Notes will be subject to redemption at the Company's option, on or after September 1, 2021, in whole or in part, if the conditions described below are satisfied. The Convertible Notes will mature on September 1, 2024, unless earlier converted, redeemed or repurchased in accordance with their terms. Subject to satisfaction of certain conditions and during the periods described below, the Convertible Notes may be converted at an initial conversion rate of 20.4891 shares of common stock per $1,000 principal amount of the Convertible Notes (equivalent to an initial conversion price of approximately $48.81 per share of common stock).

Holders of the Convertible Notes may convert all or any portion of their notes, in multiples of $1,000 principal amount, at their option at any time prior to the close of business on the business day immediately preceding June 1, 2024 only under the following circumstances:

(1) during any calendar quarter commencing after the calendar quarter ending on December 31, 2017 (and only during such calendar quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether consecutive or not) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;

(2) during the five-business day period after any five-consecutive trading day period (the "measurement period") in which the "trading price" per $1,000 principal amount of the Convertible Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day;

(3) if the Company calls the Convertible Notes for redemption, until the close of business on the business day immediately preceding the redemption date; or

(4) upon the occurrence of specified corporate events.

As of March 31, 2018, none of the above circumstances have occurred and as such, the Convertible Notes may not be converted.

Prior to September 1, 2021, the Company may not redeem the Convertible Notes. On or after September 1, 2021, the Company may redeem for cash all or part of the Convertible Notes if the last reported sale price of the Company's common stock equals or exceeds 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30-consecutive trading day period ending within five trading days prior to the date on which the Company provides notice of the redemption. The redemption price will be the principal amount of the Convertible Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date. In addition, calling any Convertible Note for redemption will constitute a make-whole fundamental change with respect to that Convertible Note, in which case the conversion rate applicable to the conversion of that Convertible Note, if it is converted in connection with the redemption, will be increased in certain circumstances.

In accordance with accounting guidance for debt with conversion and other options, the Company separately accounted for the liability and equity components of the Convertible Notes by allocating the proceeds between the liability component and the embedded conversion option (the "Equity Component") due to the Company's ability to settle the Convertible Notes in cash, common stock or a combination of cash and common stock, at its option. The initial carrying amount of the Liability Component of $166.3 million was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The allocation was performed in a manner that reflected the Company's non-convertible debt borrowing rate for similar debt. The Equity Component of the Convertible Notes of $138.7 million was recognized as a debt discount and represents the difference between the proceeds from the issuance of the Convertible Notes of $305.0 million and the fair value of the liability of the Convertible Notes of approximately $305.0 million on their respective dates of issuance. The excess of the principal amount of the liability component over its carrying amount (the "Debt Discount") is amortized to interest expense using the effective interest method over seven years. The Equity Component is not remeasured as long as it continues to meet

the conditions for equity classification. In connection with issuance of the Convertible Notes, the Company also incurred certain offering costs directly attributable to the offering. Such costs are deferred and amortized over the term of the debt to interest expense using the effective interest method. A portion of the deferred financing costs incurred in connection with the Convertible Notes was deemed to relate to the Equity Component and was allocated to additional paid-in capital.

The outstanding balances of the Convertible Notes as of March 31, 2018 consisted of the following (in thousands):

	2024 Convertible Notes
Liability component:	
Principal	$ 305,000
Less: debt discount and issuance costs, net	(135,716)
Net carrying amount	$ 169,284
Equity component:	$ 134,450

The Company determined the expected life of the Convertible Notes was equal to its seven-year term. The effective interest rate on the Liability Components of the Convertible Notes for the period from the date of issuance through March 31, 2018 was 13.04%. As of March 31, 2018, the "if-converted value" did not exceed the remaining principal amount of the Convertible Notes. The fair values of the Convertible Notes are based on data from readily available pricing sources which utilize market observable inputs and other characteristics for similar types of instruments, and, therefore, these convertible senior notes are classified within Level 2 in the fair value hierarchy. The fair value of the Convertible Notes, which differs from their carrying value, is influenced by interest rates, the Company's stock price and stock price volatility. The estimated fair value of the Convertible Notes as of March 31, 2018 was approximately $301.6 million.

The following table sets forth total interest expense recognized related to the Convertible Notes during the three months ended March 31, 2018 and 2017 (in thousands):

	Three Months Ended March 31,	
	2018	2017
Contractual interest expense	$ 2,288	$ —
Amortization of debt discount	3,159	—
Amortization of debt issuance costs	119	—
Total interest expense	$ 5,566	$ —

Future minimum payments on the Company's long-term debt as of March 31, 2018 are as follows (in thousands):

Years ended December 31,	Future Minimum Payments
2018	$ 4,575
2019	9,150
2020	9,150
2021	9,150
2022	9,150
2023 and Thereafter	323,300
Total minimum payments	$ 364,475
Less: interest	(59,475)
Less: unamortized discount	(135,716)
Less: current portion	—

Long Term Debt	$	169,284

9. Stock-Based Compensation

Stock Options

A summary of stock option activity during the three months ended March 31, 2018 is as follows (in thousands, except for per share amounts):

	Shares	Weighted-Average Exercise Price (in dollars per share)	Weighted-Average Contractual Life (in years)	Aggregate Intrinsic Value
Options outstanding at December 31, 2017	5,648	$ 37.71		
Granted	1,020	37.79		
Exercised	(414)	15.85		
Canceled	(107)	42.70		
Expired	(261)	51.38		
Options outstanding at March 31, 2018	5,886	$ 38.58	7.96	$ 23,712
Options exercisable at March 31, 2018	2,799	$ 36.12	6.84	$ 20,508

The weighted-average grant-date fair value per share of options granted during the three months ended March 31, 2018 was $20.88. As of March 31, 2018, there was approximately $63.8 million of total unrecognized compensation expense related to unvested stock options, which is expected to be recognized over a weighted-average period of approximately 2.86 years.

Restricted Stock Units

The Company awards restricted stock units ("RSUs") to employees under its 2011 Equity Incentive Plan. Each RSU entitles the holder to receive one share of the Company's common stock when the RSU vests. The RSUs vest in four substantially equal installments on each of the first four anniversaries of the vesting commencement date, subject to the employee's continued employment with, or service to, the Company on such vesting date. Compensation expense is recognized on a straight-line basis.

A summary of RSU activity during the three months ended March 31, 2018 is as follows (in thousands, except for per share amounts):

	RSUs	Weighted-Average Grant Date Fair Value (in dollars per share)
RSUs Outstanding at December 31, 2017	147	$ 36.69
Granted	221	37.83
Vested	(16)	45.65
Forfeited	(15)	40.09
RSUs Outstanding at March 31, 2018	337	$ 36.86

As of March 31, 2018, there was approximately $11.5 million of total unrecognized compensation expense related to unvested RSUs, which is expected to be recognized over a weighted-average period of approximately 3.2 years.

Employee Stock Purchase Plan

In September 2016, the Company initiated the first offering period under the Company's 2016 Employee Stock Purchase Plan (the “ESPP”), pursuant to which eligible employees may purchase shares of the Company’s common stock on the last day of each predetermined six-month offering period at 85% of the lower of the fair market value per share at the beginning or end of the applicable offering period. The offering periods run from March 1 through August 31 and from September 1 through February 28 (or February 29, in a leap year) of each year.

As of March 31, 2018, the Company had recorded a liability of $0.4 million related to its ESPP obligations. In accordance with the terms of its ESPP, the Company recorded stock-based compensation expense of $0.2 million for the three-month period ended March 31, 2018.

10. Product Revenue Reserves and Allowances

To date, the Company's only source of product revenue has been from the U.S. sales of TYMLOS, which it began shipping to customers in May 2017. The following table summarizes activity in each of the product revenue allowance and reserve categories for the three months ended March 31, 2018 (in thousands):

	Chargebacks, Discounts, and Fees	Government and other rebates	Returns	Total
Beginning balance at December 31, 2017	$ 1,986	$ 1,231	$ 421	$ 3,638
Provision related to sales	3,580	3,196	204	6,980
Credits and payments made	(30)	(839)	(252)	(1,121)
Ending balance at March 31, 2018	$ 5,536	$ 3,588	$ 373	$ 9,497

Chargebacks, discounts, fees, and returns are recorded as reductions of trade receivables, net on the condensed consolidated balance sheets. Government and other rebates are recoded as a component of accrued expenses and other current liabilities on the condensed consolidated balance sheets.

11. Net Loss Per Share

Basic and diluted net loss per share is calculated as follows (in thousands, except share and per share amounts):

	Three Months Ended March 31,	
	2018	2017
Numerator:		
Net loss	$ (61,555)	$ (56,939)
Denominator:		
Weighted-average number of common shares used in loss per share - basic and diluted	44,937,776	43,185,952
Loss per share - basic and diluted	$ (1.37)	$ (1.32)

The following potentially dilutive securities, prior to the use of the treasury stock method, have been excluded from the computation of diluted weighted-average shares outstanding, as they would be anti-dilutive. For the three months ended March 31, 2018 and 2017, respectively, all the Company's options to purchase common stock, warrants, and restricted stock units outstanding were assumed to be anti-dilutive as earnings attributable to common stockholders was in a loss position.

	Three Months Ended March 31,	
	2018	2017
Options to purchase common stock	5,886,348	6,968,155
Warrants	425,283	605,415
Restricted stock units	336,240	76,215

The Company has the option to settle the conversion obligation for the Convertible Notes in cash, shares or any combination of the two. As the Convertible Notes are not convertible as of March 31, 2018, they are not participating securities and they will not have an impact on the calculation of basic earnings or loss per share. Based on the Company's net loss position, there is no impact on the calculation of dilutive loss per share during the three-month periods ended March 31, 2018 and 2017, respectively.

12. License Agreements

3M

In February 2018, the Company entered into a Scale-Up And Commercial Supply Agreement (the “Supply Agreement”) with 3M Company and 3M Innovative Properties Company (collectively with 3M Company, “3M”), pursuant to which 3M has agreed to exclusively manufacture Phase 3 and global commercial supplies of an abaloparatide-coated transdermal patch product (“Product”) and associated applicator devices (“Applicator”). Under the Supply Agreement, 3M will manufacture Product and Applicator for the Company according to agreed-upon specifications in sufficient quantities to meet the Company’s projected supply requirements. 3M will manufacture commercial supplies of Product at unit prices that decrease with an increase in the quantity the Company orders. The Company will pay 3M a mid-to-low single-digit royalty on worldwide net sales of Product and reimburse 3M for certain capital expenditures incurred to establish commercial supply of Product. The Company is responsible for providing, at its expense, supplies of abaloparatide drug substance to be used in manufacturing Product. During the term of the Supply Agreement, 3M and the Company have agreed to work exclusively with each other with respect to the delivery of abaloparatide, parathyroid hormone (“PTH”), and/or PTH related proteins via active transdermal, intradermal, or microneedle technology. There have been no payments to 3M with respect to the Supply Agreement through March 31, 2018.

The initial term of the Supply Agreement began on its effective date, February 27, 2018, and will continue for five years after the first commercial sale of Product. The Supply Agreement then automatically renews for successive three-year terms, unless earlier terminated pursuant to its terms or upon either party’s notice of termination to the other 24 months prior to the end of the then-current term. The Supply Agreement may be terminated by either party upon an uncured material breach of its terms by the other party, or due to the other party’s bankruptcy, insolvency, or dissolution. The Company may terminate the Supply Agreement upon the occurrence of certain events, including for certain clinical, technical, or commercial reasons impacting Product, if it is unable to obtain U.S. regulatory approval for Product within a certain time period, or if it ceases development or commercialization of Product. 3M may terminate the Supply Agreement upon the occurrence of certain events, including if there are certain safety issues related to Product, if the Company is unable to obtain U.S. regulatory approval for Product within a certain time period, or if the Company fails to order Product for a certain period of time after commercial launch of the Product in the U.S. Upon certain events of termination, 3M is required to transfer the manufacturing processes for Product and Applicator to the Company or a mutually agreeable third party and continue supplying Product and Applicator for a period of time pursuant to the Company’s projected supply requirements.

In June 2009, the Company entered into a Development and Clinical Supplies Agreement with 3M, as amended (the “Development Agreement”), under which Product and Applicator development activities occur and 3M has manufactured phase 1 and 2 clinical trial supplies on an exclusive basis. The term of the Development Agreement runs until June 2019 and then automatically renews for additional one-year terms, unless earlier terminated, until the earliest of (i) the expiration or termination of the Supply Agreement, (ii) the mutual written agreement of the parties, or (iii) prior written notice by either party to the other party at least ninety days prior to the end of the then-current term of the Development Agreement that such party declines to extend the term. Either party may terminate the agreement in the event of an uncured material breach by the other party. The Company pays 3M for services delivered pursuant to the agreement on a fee-for-service or a fee-for-deliverable basis as specified in the agreement. The Company has paid 3M approximately $21.5 million, in the aggregate, through March 31, 2018 with respect to services and deliverables delivered pursuant to the Development Agreement.

Ipsen

In September 2005, the Company entered into a license agreement (the "License Agreement"), as amended, with an affiliate of Ipsen Pharma SAS ("Ipsen") under which the Company exclusively licensed certain Ipsen compound technology and related patents covering abaloparatide to research, develop, manufacture, and commercialize certain compounds and related products in all countries, except Japan (where the Company has an option to negotiate a co-promotion agreement for abaloparatide-SC) and France (where the Company’s commercialization rights were subject to certain co-marketing and co-promotion rights exercisable by Ipsen, provided that certain conditions included in the License Agreement were met). The Company believes that Ipsen's co-marketing and co-promotion rights in France have permanently expired. Ipsen also granted the Company an exclusive right and license under the Ipsen compound technology and related patents to make, and have made, compounds or products in Japan. Ipsen further granted the Company an exclusive right and license under certain Ipsen formulation technology and related patents solely for purposes of enabling the Company to develop, manufacture, and commercialize compounds and products covered by the compound technology license in all countries, except Japan and France (as discussed above).

In consideration for these rights, to date, the Company has made nonrefundable, non-creditable payments in the aggregate of $13.0 million to Ipsen, including payment in recognition of certain milestones having been achieved through March 31, 2018. The License Agreement provides for further payments upon the achievement of certain future regulatory and commercial milestones. Total additional milestone payments that could be payable under the agreement is €24.0 million (approximately $29.6 million). In connection with the FDA's approval of TYMLOS in April 2017, the Company paid Ipsen a milestone of €8.0 million (approximately $8.7 million on the date paid) under the License Agreement, which the Company recorded as an intangible asset within the condensed consolidated balance sheet and will amortize over the remaining patent life or the estimated useful life of the underlying product. The agreement also provides that the Company will pay to Ipsen a fixed five

percent royalty based on net sales of the product by the Company or its sublicensees on a country-by-country basis until the later of the last to expire of the licensed patents or for a period of 10 years after the first commercial sale in such country. The royalty expense was $0.7 million for the three months ended March 31, 2018. The date of the last to expire of the abaloparatide patents licensed from or co-owned with Ipsen, barring any extension thereof, is expected to be March 26, 2028.

If the Company sublicenses abaloparatide to a third party, then the agreement provides that the Company would pay Ipsen a percentage of certain payments received from such sublicensee (in lieu of milestone payments not achieved at the time of such sublicense). The applicable percentage is in the low double-digit range. In addition, if the Company or its sublicensees commercialize a product that includes a compound discovered by it based on or derived from confidential Ipsen know-how, then the agreement provides that the Company would pay to Ipsen a fixed low single-digit royalty on net sales of such product on a country-by-country basis until the later of the last to expire of licensed patents that cover such product or for a period of 10 years after the first commercial sale of such product in such country.

The License Agreement expires on a country-by-country basis on the later of (1) the date the last remaining valid claim in the licensed patents expires in that country, or (2) a period of 10 years after the first commercial sale of the licensed products in such country, unless it is sooner terminated in accordance with its terms.

The Company is currently in arbitration proceedings with Ipsen in connection with the License Agreement. See "Legal Proceedings" for more information.

Eisai Co. Ltd.

In June 2006, the Company entered into a license agreement (the “Eisai Agreement”), with Eisai Co. Ltd. (“Eisai”). Under the Eisai Agreement, Eisai granted to the Company an exclusive right and license to research, develop, manufacture and commercialize elacestrant (RAD1901) and related products from Eisai in all countries, except Japan. In consideration for the rights to elacestrant, the Company paid Eisai an initial license fee of $0.5 million, which was expensed during 2006. In March 2015, the Company entered into an amendment to the Eisai Agreement (the “Eisai Amendment”) in which Eisai granted to the Company the exclusive right and license to research, develop, manufacture and commercialize elacestrant in Japan. In consideration for the rights to elacestrant in Japan, the Company paid Eisai an initial license fee of $0.4 million upon execution of the Eisai Amendment, which was recognized as research and development expense in 2015. The Eisai Agreement, as amended, also provides for additional payments of up to $22.3 million, payable upon the achievement of certain clinical and regulatory milestones.

Under the Eisai Agreement, as amended, should a product covered by the licensed technology be commercialized, the Company will be obligated to pay to Eisai royalties in a variable mid-single-digit range based on net sales of the product on a country-by-country basis. The royalty rate will be reduced, on a country-by-country basis, at such time as the last remaining valid claim in the licensed patents expires, lapses, or is invalidated and the product is not covered by data protection clauses. In addition, the royalty rate will be reduced, on a country-by-country basis, if, in addition to the conditions specified in the previous sentence, sales of lawful generic versions of such product account for more than a specified minimum percentage of the total sales of all products that contain the licensed compound during a calendar quarter. The latest licensed patent is expected to expire, barring any extension thereof, on August 18, 2026.

The Eisai Agreement, as amended, also grants the Company the right to grant sublicenses with prior written approval from Eisai. If the Company sublicenses the licensed technology to a third party, the Company will be obligated to pay Eisai, in addition to the milestones referenced above, a fixed low double-digit percentage of certain fees received from such sublicensee and royalties in the low single-digit range based on net sales of the sublicensee. The Eisai Agreement expires on a country-by-country basis on the later of (1) the date the last remaining valid claim in the licensed patents expires, lapses or is invalidated in that country, the product is not covered by data protection clauses, and the sales of lawful generic versions of the product account for more than a specified percentage of the total sales of all pharmaceutical products containing the licensed compound in that country; or (2) a period of 10 years after the first commercial sale of the licensed products in such country, unless it is sooner terminated.

Duke University

In December 2017, the Company entered into a patent license agreement (the "Duke Agreement") with Duke University ("Duke"). Under the Duke Agreement, the Company acquired an exclusive worldwide license to certain Duke patents associated with elacestrant related to the use of elacestrant in the treatment of breast cancer as a monotherapy and in a combination therapy (collectively the “Duke Patents”).

In consideration for these rights, the Company incurred non-refundable, non-creditable obligations to pay Duke an aggregate of $1.3 million, which were expensed as research and development costs during 2017. The Duke Agreement provides for additional payments upon the achievement of certain regulatory and commercial milestones totaling up to $3.8 million. The

agreement provides that the Company would pay Duke a fixed low single-digit royalty based on net sales of a licensed product, on a country-by-country basis, beginning in August 2029 and ending upon expiration of the last licensed patent rights to expire in a country.

If the Company sublicenses the Duke Patents to a third party, the agreement provides that the Company will pay Duke a percentage of certain payments received by it from such sublicensee(s). The applicable percentage is in the high single-digit range on certain payments received in excess of a pre-specified amount. The Duke Agreement may be terminated by either party upon an uncured material breach of the agreement by the other party. The Company may terminate the agreement upon 60 days written notice to Duke, if the Company suspends its manufacture, use and sale of the licensed products.

Teijin Limited

In July 2017, the Company entered into a license and development agreement (the "Teijin Agreement") with Teijin Limited ("Teijin") for abaloparatide-SC in Japan.

Pursuant to the Teijin Agreement, the Company granted Teijin: (i) an exclusive payment-bearing license under certain of the Company's intellectual property to develop and commercialize abaloparatide-SC in Japan, (ii) a non-exclusive payment-bearing license under certain of the Company's intellectual property to manufacture abaloparatide-SC for commercial supply in Japan, (iii) a right of reference to certain of the Company's regulatory data related to abaloparatide-SC for purposes of developing, manufacturing and commercializing abaloparatide-SC in Japan, (iv) a manufacture transfer package, upon Teijin's request, consisting of information and the Company's know-how that is necessary for the manufacture of active pharmaceutical ingredient and abaloparatide-SC, (v) a right to request that the Company manufacture (or arrange for a third party to manufacture) and supply (or arrange for a third party to supply) the active pharmaceutical ingredient for the clinical supply of abaloparatide-SC in sufficient quantities to enable Teijin to conduct its clinical trials in Japan, and (vi) a right to request that the Company arrange for Teijin to directly enter into commercial supply agreements with the Company's existing contract manufacturers on the same pricing terms and on substantially similar commercial terms to those set forth in the Company's existing agreements with such contract manufacturers. In consideration for these rights, the Company received an upfront payment of $10.0 million, and may receive further payments upon the achievement of certain regulatory and sales milestones, as well as a fixed low double-digit royalty based on net sales of abaloparatide-SC in Japan during the royalty term, as defined below. In addition, the Company has an option to negotiate a co-promotion agreement with Teijin for abaloparatide-SC in Japan upon commercialization.

Pursuant to the Teijin Agreement, the parties may further collaborate on new indications for abaloparatide-SC, and the Company also maintains full global rights to its development program for abaloparatide-patch, which is not part of the Teijin Agreement.

Unless earlier terminated, the Teijin Agreement expires on the later of the (i) date on which the use, sale or importation of abaloparatide-SC is no longer covered by a valid claim under the Company's patent rights licensed to Teijin in Japan, (ii) expiration of marketing or data exclusivity for abaloparatide-SC in Japan, or (iii) 10th anniversary of the first commercial sale of abaloparatide-SC in Japan.

Upon execution of the Teijin Agreement, the transaction price included only the $10.0 million up-front payment owed to the Company. The Company received this amount in October 2017. As referenced above, the Company may receive further payments upon the achievement of certain regulatory and sales milestones, totaling up to $40.0 million, as well as a fixed low double-digit royalty based on net sales of abaloparatide-SC in Japan during the royalty term.

13. Income Taxes

The Company did not record a federal or state income tax provision or benefit for the three months ended March 31, 2018 and 2017 due to the expected loss before income taxes to be incurred for the years ended December 31, 2018 and 2017, as well as the Company's continued maintenance of a full valuation allowance against its net deferred tax assets.

In December 2016, the Company migrated certain of its intellectual property to a foreign holding company operating in Bermuda. During 2017, the Company implemented additional steps relating to this internal strategy including executing transfer-pricing and cost share arrangements.

14. Commitments and Contingencies

Litigation

The Company may be subject to legal proceedings and claims which arise in the ordinary course of its business. In the Company's opinion, the ultimate resolution of these matters is not expected to have a material effect on its consolidated

financial statements. The Company records a liability in its consolidated financial statements for these matters when a loss is known or considered probable and the amount can be reasonably estimated. The Company reviews these estimates each accounting period as additional information is known and adjusts the loss provision when appropriate. If a matter is both probable to result in a liability and the amounts of loss can be reasonably estimated, the Company estimates and discloses the possible loss or range of loss to the extent necessary to make the consolidated financial statements not misleading. If the loss is not probable or cannot be reasonably estimated, a liability is not recorded in its consolidated financial statements.

In November 2016, the Company received notice that in October 2016, Ipsen had initiated arbitration proceedings against it in the International Chamber of Commerce's International Court of Arbitration. Ipsen's Request for Arbitration alleged that the Company breached various provisions of the License Agreement concerning abaloparatide, including with regard to Ipsen's right to co-promote abaloparatide in France and a license from the Company with respect to Japan. Ipsen is seeking declaratory relief, compliance with the License Agreement, damages, costs and fees as a result of the purported breaches and has alleged the monetary value of these claims is approximately €50 million (approximately $61.6 million).

In January 2017, the Company submitted an Answer denying Ipsen's claims and alleging counterclaims against Ipsen for breach of the License Agreement and other declaratory judgment. The Company asserted, among other things, that Ipsen's claimed rights to co-promote abaloparatide in France and to a license from the Company with respect to Japan have permanently expired, and that Ipsen has breached the License Agreement by, among other things, allowing certain patents to expire and by purporting to license to a third party certain manufacturing and other rights that the Company contends Ipsen exclusively licensed to it. The Company is seeking dismissal of Ipsen's claims, as well as declaratory relief, compliance with the License Agreement, and other damages, costs and fees to be determined by the Arbitral Tribunal.

In February 2017, Ipsen submitted a Reply denying the Company's counterclaims and alleging that the Company is precluded from asserting them. Following a preliminary hearing before the Arbitral Tribunal to determine certain jurisdictional and contractual defenses asserted by Ipsen in its Reply, on July 17, 2017, the Arbitral Tribunal issued a decision finding it has jurisdiction to decide the Company's counterclaims and that the Company's counterclaims are not contractually barred.

On July 31, 2017, Ipsen submitted its Statement of Claim to the Arbitral Tribunal and on September 14, 2017, the Company submitted its Statement of Defense and Counterclaims. Subsequently, on October 20, 2017, Ipsen submitted its Reply and Statement of Defense to the Company's Counterclaims and on November 10, 2017, the Company submitted its Rejoinder on Claims and Reply on Counterclaims. Ipsen submitted a Rejoinder on Counterclaims on November 24, 2017. A hearing on the merits was held on December 18 and 19, 2017, and additional submissions on cost and fee allocation were made on February 9, 2018. The Company expects a final decision by the Arbitral Tribunal in the first half of 2018. Until the Company receives a decision from the Arbitral Tribunal, it cannot predict or assess the likely outcome of these proceedings.

Manufacturing Agreements

In June 2016, the Company entered into a Supply Agreement with Ypsomed AG ("Ypsomed"), pursuant to which Ypsomed agreed to supply commercial and clinical supplies of a disposable pen injection device customized for subcutaneous injection of abaloparatide, the active pharmaceutical ingredient ("API") for TYMLOS. The Company agreed to purchase a minimum number of devices at prices per device that decrease with an increase in quantity supplied. In addition, the Company has made milestone payments for Ypsomed's capital developments in connection with the initiation of the commercial supply of the device and paid a one-time capacity fee. All costs and payments under the agreement are delineated in Swiss Francs. The agreement has an initial term of three years, which began on June 1, 2017, after which it automatically renews for two-year terms unless either party terminates the agreement upon 18 months' notice prior to the end of the then-current term. The Company agreed to purchase the devices at prices that decrease based on the quantity ordered, subject to an annual increase by Ypsomed and to minimum annual quantity requirements over the initial three-year term of the agreement. The Company is required to purchase a minimum number of batches equal to approximately CHF 0.5 million (approximately $0.5 million) per year and CHF 2.9 million (approximately $3.0 million) in total, subject to any annual price adjustments, during the initial term.

In June 2016, the Company entered into a Commercial Supply Agreement with Vetter Pharma International GmbH ("Vetter"), pursuant to which Vetter has agreed to formulate the finished abaloparatide-SC drug product containing abaloparatide API, to fill cartridges with the drug product, to assemble the pen delivery device, and to package the pen for commercial distribution. The Company agreed to purchase the cartridges and pens in specified batch sizes at a price per unit. For labeling and packaging services, the Company agreed to pay a per unit price dependent upon the number of pens loaded with cartridges that are labeled and packaged. These prices are subject to an annual price adjustment. The agreement has an initial term of five years, which began on January 1, 2016, after which, it automatically renews for two-year terms unless either party notifies the other party two years before the end of the then-current term that it does not intend to renew.

In July 2016, the Company entered into a Manufacturing Services Agreement with Polypeptide Laboratories Holding AB ("PPL"), as successor-in-interest to Lonza Group Ltd., pursuant to which PPL agreed to manufacture the commercial and

clinical supplies of the API for abaloparatide. The Company agreed to purchase the API in batches at a price per gram in euros, subject to an annual increase by PPL. The agreement has an initial term of six years, which began on June 28, 2016, after which, it automatically renews for three-year terms unless either party provides notice of non-renewal 24 months before the end of the then-current term. The Company is also required to purchase a minimum number of batches annually, equal to approximately €2.9 million (approximately $3.4 million) per year and approximately €16.1 million (approximately $19.9 million) in total, subject to any annual price adjustments, during the initial term.

Restructuring

On March 27, 2018, the Company initiated a restructuring plan to consolidate operations into its two main offices in Waltham, Massachusetts and Wayne, Pennsylvania to achieve operational efficiencies. As part of that effort, the Company will shut down its Parsippany, New Jersey office.

Costs to be incurred in connection with the restructuring comprise one-time benefits to employees who are involuntarily terminated, costs related to the early termination of contracts and retention costs for certain employees who will continue to work remotely for the Company after the Parsippany office is closed. During the three months ended March 31, 2018, the employee termination related costs incurred were immaterial. Employee termination and retention related costs are generally recognized ratably over the future service period and contract termination costs are generally recognized as of the cease-use date. The Company expects the aggregate amount of such costs upon completion of the restructuring to be approximately $2.0 million to $2.5 million.

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

Cautionary Statement

This Quarterly Report on Form 10-Q, including the information incorporated by reference herein, contains, in addition to historical information, forward-looking statements. We may, in some cases, use words such as "project," "believe," "anticipate," "plan," "expect," "estimate," "intend," "continue," "should," "would," "could," "potentially," "will," "may" or similar words and expressions that convey uncertainty of future events or outcomes to identify these forward-looking statements. Forward-looking statements in this Quarterly Report on Form 10-Q may include, among other things, statements about:

- *our expectations regarding commercialization of TYMLOS in the U.S. and our ability to successfully commercialize TYMLOS in the U.S.;*
- *the therapeutic benefits and effectiveness of TYMLOS and our product candidates and the potential indications and market opportunities therefor;*
- *our ability to obtain U.S. and foreign regulatory approval for our product candidates, including supplemental regulatory approvals for TYMLOS, and the timing thereof, including the approval of abaloparatide-SC outside of the U.S.;*
- *our expectations regarding the timing of our regulatory submissions and for initiating and completing clinical trials;*
- *our ability to compete with other companies that are or may be developing or selling products that are competitive with TYMLOS or our investigational product candidates;*
- *anticipated trends and challenges in the market in which TYMLOS will compete and in other potential markets in which we may compete;*
- *our plans with respect to collaborations and licenses related to the development, manufacture or sale of TYMLOS and our investigational product candidates;*
- *the progress of, timing of and amount of expenses associated with our research, development and commercialization activities;*
- *the safety profile and related adverse events of TYMLOS and our investigational product candidates;*
- *the ability of our investigational product candidates to meet existing or future regulatory standards;*
- *our expectations regarding federal, state and foreign regulatory requirements;*
- *the success of our clinical studies for our investigational product candidates;*
- *our expectations as to future financial performance, expense levels, future payment obligations and liquidity sources;*
- *our ability to attract, motivate, and retain key personnel; and*
- *other factors discussed elsewhere in this Quarterly Report on Form 10-Q.*

The outcome of the events described in these forward-looking statements is subject to known and unknown risks, uncertainties and other important factors that could cause actual results to differ materially from the results anticipated by these forward-looking statements. These important factors include our financial performance, the uncertainties inherent in the early stages of commercializing any new pharmaceutical product or the initiation, execution and completion of clinical trials, uncertainties surrounding the timing of availability of data from our clinical trials, ongoing discussions with and actions by regulatory

authorities, our ability to attract and retain customers, our development activities and those other factors we discuss under the caption "Risk Factors" in Part II, Item 1A of this Quarterly Report on Form 10-Q and in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017. You should read these factors and the other cautionary statements made in this Quarterly Report on Form 10-Q as being applicable to all related forward-looking statements wherever they appear in this Quarterly Report on Form 10-Q. These important factors are not exhaustive and other sections of this Quarterly Report on Form 10-Q may include additional factors which could adversely impact our business and financial performance.

You should read the following discussion of our financial condition and results of operations in conjunction with our financial statements and related notes set forth in this report. Unless the context otherwise requires, "we," "our," "us" and similar expressions used in this Management's Discussion and Analysis of Financial Condition and Results of Operations section refer to Radius Health, Inc. and our consolidated entities.

Executive Overview

We are a science-driven fully integrated biopharmaceutical company that is committed to developing and commercializing innovative endocrine therapeutics in the areas of osteoporosis and oncology. In April 2017, our first commercial product, TYMLOS (abaloparatide) injection, was approved by the U.S. Food and Drug Administration ("FDA") for the treatment of postmenopausal women with osteoporosis at high risk for fracture defined as history of osteoporotic fracture, multiple risk factors for fracture, or patients who have failed or are intolerant to other available osteoporosis therapy. In May 2017, we commenced U.S. commercial sales of TYMLOS and as of May 8, 2018, TYMLOS was available and covered for approximately 263 million U.S. insured lives, representing approximately 95% of U.S. commercial and 43% of Medicare insured lives. In May 2017, we announced positive top-line results from our completed 24-month ACTIVExtend clinical trial for TYMLOS, which met all of its primary and secondary endpoints. In July 2017, we entered into a license and development agreement with Teijin Limited ("Teijin") for abaloparatide for subcutaneous injection ("abaloparatide-SC") in Japan. Under this agreement, we received an upfront payment and are entitled to receive milestone payments upon the achievement of certain regulatory and sales milestones, and a fixed low double-digit royalty based on net sales of abaloparatide-SC in Japan during the royalty term. In addition, we have an option to negotiate for a co-promotion agreement with Teijin for abaloparatide-SC in Japan. We submitted a labeling supplement to the FDA in connection with the results from our ACTIVExtend trial in December 2017. In March 2018, the Committee for Medicinal Products for Human Use ("CHMP") of the European Medicines Agency ("EMA") adopted a negative opinion on our European Marketing Authorisation Application ("MAA") for abaloparatide-SC. In April 2018, we submitted a request for re-examination of the CHMP's opinion. In March 2018, we initiated a clinical trial in men with osteoporosis which, if successful, will form the basis of a supplemental NDA seeking to expand the use of TYMLOS to treat men with osteoporosis at high risk for fracture. In the first half of 2018, we plan to initiate a bone histomorphometry study, which would enroll approximately 25 postmenopausal women with osteoporosis to evaluate the early effects of TYMLOS on tissue-based bone remodeling and structural indices.

We are developing an abaloparatide transdermal patch ("abaloparatide-patch"), for potential use in the treatment of postmenopausal women with osteoporosis. In January 2018, we met with the FDA and gained alignment with the agency on a single, pivotal bone mineral density ("BMD") non-inferiority bridging study to support an NDA submission. The FDA agreed that, depending on the study results, a randomized, open label, active-controlled, non-inferiority Phase 3 study of up to 500 patients with postmenopausal osteoporosis at high risk of fracture would be sufficient to gain approval for abaloparatide-patch. The FDA confirmed that the primary endpoint will be change in lumbar spine BMD at 12 months and that the non-inferiority margin must preserve 75% of the active control (abaloparatide-SC) based on the lower bound of the 95% confidence interval. We expect to initiate this pivotal study in mid-2019 and to complete it in 2020. In February 2018, we entered into a scale-up and commercial supply agreement with 3M Company pursuant to which 3M has agreed to exclusively manufacture Phase 3 and global commercial supplies of abaloparatide-patch.

We are also developing our investigational product candidate, elacestrant (RAD1901), a selective estrogen receptor degrader ("SERD"), for potential use in the treatment of hormone-receptor positive breast cancer. We have completed enrollment in our ongoing dose escalation Part A, and dose expansion Part B and C, and in the ^{18}F fluoroestradiol positron emission tomography ("FES-PET") imaging Phase 1 studies of elacestrant in advanced metastatic breast cancer. In October 2017, the FDA granted Fast Track designation for our elacestrant breast cancer program. Based on feedback from the EMA and the FDA, we now intend to conduct a single, randomized, controlled Phase 3 trial of elacestrant as a third-line monotherapy in approximately 300 patients with ER+/HER2- advanced/metastatic breast cancer. Patients in the study would be randomized to receive either elacestrant or the investigator's choice of an approved hormonal agent and the primary endpoint of the study will be progression-free survival (PFS). The study would also include a planned interim PFS analysis. We believe that, depending on results, this single trial would support applications for global marketing approvals for elacestrant as a third-line monotherapy. In addition, depending on results of the interim analysis, we could seek accelerated approval for elacestrant in the United

States. We will provide further study details when the Phase 3 study is started, which we expect will be in the second half of 2018.

We are developing our internally discovered investigational product candidate, RAD140, a non-steroidal selective androgen receptor modulator ("SARM") for potential use in the treatment of hormone-receptor positive breast cancer. In September 2017, we initiated a Phase 1 study of RAD140 in patients with locally advanced or metastatic breast cancer. We expect to provide an update on our RAD140 development program by the end of 2018.

In March 2018, we initiated a restructuring plan to consolidate operations into our two main offices in Waltham, Massachusetts and Wayne, Pennsylvania to achieve operational efficiencies. As part of that effort, we will shut down our Parsippany, New Jersey office.

Abaloparatide

In April 2017, the FDA approved TYMLOS for the treatment of postmenopausal women with osteoporosis at high risk for fracture defined as history of osteoporotic fracture, multiple risk factors for fracture, or patients who have failed or are intolerant to other available osteoporosis therapy. We are developing two formulations of abaloparatide: abaloparatide-SC and abaloparatide-patch.

Abaloparatide-SC

TYMLOS was approved in the United States in April 2017 for the treatment of postmenopausal women with osteoporosis at high risk for fracture. The first commercial sales of TYMLOS in the United States occurred in May 2017 and as of May 8, 2018, TYMLOS was available and covered for approximately 263 million U.S. insured lives, representing approximately 95% of U.S. commercial and 43% of Medicare insured lives. We are commercializing TYMLOS in the United States through our commercial organization. We have built a distribution network for TYMLOS in the United States, comprised of well-established distributors and specialty pharmacies. Under our distribution model, both the distributors and specialty pharmacies take physical delivery of TYMLOS and the specialty pharmacies dispense TYMLOS directly to patients.

We hold worldwide commercialization rights to abaloparatide-SC, except for Japan, where we have an option to negotiate a co-promotion agreement with Teijin for abaloparatide-SC. We intend to enter a collaboration for the commercialization of abaloparatide-SC outside of the United States and Japan. In March 2018, the CHMP of the EMA adopted a negative opinion on our European MAA for abaloparatide-SC. In April 2018, we submitted a request for re-examination of the CHMP's opinion.

In May 2017, we announced positive top-line results from the completed 24-month ACTIVExtend clinical trial of TYMLOS, which met all of its primary and secondary endpoints. In ACTIVExtend, patients who had completed 18 months of TYMLOS (abaloparatide) injections or placebo in the ACTIVE Phase 3 trial were transitioned to receive 24 additional months of open-label alendronate. For the subset of ACTIVE trial patients (n=1139) that enrolled in the ACTIVExtend trial, the previous TYMLOS-treated patients had a significant 84% relative risk reduction ($p<0.0001$) in the incidence of new vertebral fractures compared with patients who received placebo followed by alendronate. They also demonstrated a 39% risk reduction in nonvertebral fractures ($p=0.038$), a 34% risk reduction clinical fractures ($p=0.045$) and a 50% risk reduction in major osteoporotic fractures ($p=0.011$) compared with patients who received placebo followed by alendronate. At the 43-month timepoint, for all patients (n=1645) that enrolled in the ACTIVE trial, TYMLOS-treated patients had a statistically significant risk reduction in new vertebral fractures ($p<0.0001$), nonvertebral fractures ($p=0.038$), clinical fractures ($p=0.045$), and major osteoporotic fractures ($p<0.001$), compared with patients who received placebo followed by alendronate. While not a pre-specified endpoint, there was also a statistically significant risk reduction in hip fractures ($p=0.027$) at the 43-month time point in the TYMLOS-treated patients, compared with patients who received placebo followed by alendronate. The adverse events reported during the alendronate treatment period were similar between the previous TYMLOS-treated patients and the previous placebo group. The incidences of cardiovascular adverse events including serious adverse events were similar between groups. There have been no cases of osteonecrosis of the jaw or atypical femoral fracture in the entire TYMLOS development program. The results from the completed ACTIVExtend trial were presented at a major scientific meeting in September 2017 and we submitted a labeling supplement in connection with this data to the FDA in December 2017.

In July 2017, we entered into a license and development agreement with Teijin for abaloparatide-SC in Japan. Pursuant to the agreement, we received an upfront payment and may receive additional milestone payments upon the achievement of certain regulatory and sales milestones, and a fixed low double-digit royalty based on net sales of abaloparatide-SC in Japan during the royalty term. In addition, we have an option to negotiate for a co-promotion agreement with Teijin for abaloparatide-SC in Japan.

In March 2018, we initiated a clinical trial in men with osteoporosis which, if successful, will form the basis of a supplemental NDA seeking to expand the use of TYMLOS to treat men with osteoporosis at high risk for fracture. The study will be a randomized, double-blind, placebo-controlled trial that will enroll approximately 225 men with osteoporosis. The primary

endpoint is change in lumbar spine BMD at 12 months compared with placebo. In previous clinical trials, TYMLOS has demonstrated increases in BMD in postmenopausal women. The study includes specialized high-resolution imaging to examine the effect of abaloparatide on bone structure, such as the hip, in a subset of the study participants.

In the first half of 2018, we plan to initiate a bone histomorphometry study, which would enroll approximately 25 postmenopausal women with osteoporosis to evaluate the early effects of TYMLOS on tissue-based bone remodeling and structural indices.

Abaloparatide-patch

We are also developing abaloparatide-patch, based on 3M's patented Microstructured Transdermal System technology, for potential use as a short wear-time transdermal patch. We hold worldwide commercialization rights to the abaloparatide-patch technology and we are developing abaloparatide-patch toward future global regulatory submissions to build upon the potential success of TYMLOS. Our development strategy for abaloparatide patch is to bridge to the established efficacy and safety of our approved abaloparatide-SC formulation.

We commenced a human replicative clinical evaluation of the optimized abaloparatide-patch in December 2015, with the goal of achieving comparability to abaloparatide-SC. In September 2016, we presented results from this evaluation of the first and second abaloparatide-patch prototypes, demonstrating that formulation technology can modify the pharmacokinetic profile of abaloparatide, including Tmax, half-life ("T1/2"), and area under the curve ("AUC"). In March 2018, we announced that through further optimization we had achieved comparability to the abaloparatide-SC profile with a third prototype (the "current abaloparatide-patch"). The current abaloparatide-patch optimized the drug-device combination through process improvements, a finalized formulation, selection of a dose (300 μg), and the introduction of a new clinical applicator. Together these changes, which were designed to improve the ease of use and patient experience, resulted in an increased half-life and AUC (915 pg.hr/ml for the current abaloparatide-patch, compared to 242 pg.hr/ml for the first patch prototype, 645 pg.hr/ml for the second patch prototype, and 936 pg.hr/ml for abaloparatide-SC).

In January 2018, we met with the FDA to align on a regulatory and development path for registration of abaloparatide-patch. We gained alignment with the agency on a single, pivotal BMD non-inferiority bridging study to support an NDA submission. The FDA agreed that, depending on the study results, a randomized, open label, active-controlled, non-inferiority Phase 3 study of up to 500 patients with postmenopausal osteoporosis at high risk of fracture would be sufficient to gain approval for abaloparatide-patch. The FDA confirmed that the primary endpoint will be change in lumbar spine BMD at 12 months and that the non-inferiority margin must preserve 75% of the active control (abaloparatide-SC) based on the lower bound of the 95% confidence interval. We expect to initiate this pivotal study in mid-2019 and to complete it in 2020. In February 2018, we entered into a scale-up and commercial supply agreement with 3M Company pursuant to which 3M has agreed to exclusively manufacture Phase 3 and global commercial supplies of abaloparatide-patch.

Elacestrant (RAD1901)

Elacestrant is a SERD that we are evaluating for potential use as a once daily oral treatment for hormone-receptor positive breast cancer. We hold worldwide commercialization rights to elacestrant. Elacestrant is currently being investigated in women with advanced ER-positive and HER2-negative breast cancer, the most common subtype of the disease. Studies completed to date indicate that the compound has the potential for use as a single agent or in combination with other therapies for the treatment of breast cancer. To date, no dose limiting toxicities have been reported in the elacestrant program.

We have completed enrollment in our FES-PET imaging study and dose-escalation Part A and expansion study parts B and C Phase 1 breast cancer trials. In June 2017, we discussed the data from these ongoing Phase 1 studies with the FDA to gain alignment on defining the next steps for our elacestrant breast cancer program, including the design of a Phase 2 trial. In this meeting, the FDA agreed that a single-arm monotherapy Phase 2 study of up to 200 patients, could be appropriate with the primary endpoint being objective response rate ("ORR"), coupled with DOR. Depending on the study results, which must demonstrate an improvement over then available therapies, this study could be considered a pivotal study for accelerated approval as long as a confirmatory study is ongoing at the time of our NDA submission. In October 2017, the FDA granted Fast Track designation for our elacestrant breast cancer program.

In February 2018, we received scientific advice from the EMA regarding a potential single-arm monotherapy Phase 2 trial of elacestrant in patients with ER+, HER2- advanced or metastatic breast cancer. In addition, we had a further meeting in February 2018 with the FDA regarding the registrational pathway for elacestrant at which we confirmed FDA's guidance for a single-arm study and gained alignment with the agency on an alternative potential comparator study design for our monotherapy program. Based on feedback from the EMA and the FDA, we now intend to conduct a single, randomized, controlled Phase 3 trial of elacestrant as a third-line monotherapy in approximately 300 patients with ER+/HER2- advanced/metastatic breast cancer. Patients in the study would be randomized to receive either elacestrant or the investigator's choice of an approved hormonal agent and the primary endpoint of the study will be PFS. The study would also include a planned interim

PFS analysis. We believe that, depending on results, this single trial would support applications for global marketing approvals for elacestrant as a third-line monotherapy. In addition, depending on results of the interim analysis, the Company could seek accelerated approval for elacestrant in the United States. We will provide further study details when the Phase 3 study is started, which we expect will be in the second half of 2018.

Phase 1 - Dose-Escalation and Expansion Study

In December 2014, we commenced a Phase 1, multicenter, open-label, multiple-part, dose-escalation study of elacestrant in postmenopausal women with ER-positive and HER2-negative advanced breast cancer in the United States to determine the recommended dose for a Phase 2 clinical trial and to make a preliminary evaluation of the potential anti-tumor effect of elacestrant. Part A of this Phase 1 study was designed to evaluate escalating doses of elacestrant. The Part B expansion cohort was initiated at 400-mg daily dosing in March 2016 to allow for an evaluation of additional safety, tolerability and preliminary efficacy. The patients enrolled in this study are heavily pretreated ER-positive, HER2-negative advanced breast cancer patients who have received a median of 3 prior lines of therapy including fulvestrant and CDK4/6 inhibitors, and about 50% of the patients had ESR1 mutations. We have completed enrollment in the ongoing dose-escalation Part A and expansion study parts B and C. In December 2017, we opened a Part D cohort in this study to provide additional data on a more homogeneous and genetically defined patient population to support our overall elacestrant clinical development program and anticipated regulatory submissions.

In December 2016 and June 2017, we reported positive results from this ongoing Phase 1 dose-escalation and expansion study. As of the study cut-off date of April 28, 2017, the elacestrant single agent ORR, was 23% with five confirmed partial responses in heavily pre-treated patients with advanced ER-positive breast cancer and in the 400-mg patient group of 26 patients with mature data, the median PFS was 4.5 months. These results showed that elacestrant was well-tolerated with the most commonly reported adverse events being low grade nausea and dyspepsia. In December 2017, we reported updated data from this ongoing Phase 1 dose-escalation and expansion study, which included mature data from 40 patients treated at the 400 mg dose in this study. As of the study cut-off date of October 30, 2017, the elacestrant single agent ORR was 27.3% with six confirmed partial responses out of 22 patients with response evaluation criteria in solid tumors ("RECIST") measurable disease. The median PFS was 5.4 months and clinical benefit rate at 24 weeks was 47.4%. These results showed that elacestrant was well-tolerated with the most commonly reported adverse events being low grade nausea, dyspepsia and vomiting.

Phase 1 - FES-PET Study

In December 2015, we commenced a FES-PET study in patients with metastatic breast cancer in the European Union, which includes the use of FES-PET imaging to assess estrogen receptor occupancy in tumor lesions following elacestrant treatment.

In December 2016, we reported positive results from the Phase 1 FES-PET study. The first three enrolled patients dosed at the 400-mg cohort had a tumor FES-PET signal intensity reduction ranging from 79% to 91% at day 14 compared to baseline. This study enrolled five additional patients in the 400-mg daily oral cohort, followed by eight patients in the 200-mg daily oral cohort. In December 2017, we reported updated data from the Phase 1 FES-PET study showing that elacestrant demonstrated robust reduction in tumor ER availability in patients with advanced ER+ breast cancer who progressed on prior endocrine therapy. Seven out of eight patients dosed at the 400-mg cohort, and four out of seven patients dosed at the 200-mg cohort, had a tumor FES-PET signal intensity reduction equal to, or greater than, 75% at day 14 compared to baseline. The reduction in FES uptake supports flexibility for both 200-mg and 400-mg elacestrant dose selection for further clinical development in combination studies with various targeted agents and was similar in patients harboring mutant or wild-type ESR-1. The most commonly reported adverse events reported were grade 1 and 2 nausea and dyspepsia.

Potential for use in Combination Therapy

In July 2015, we announced that early but promising preclinical data showed that our investigational drug elacestrant, in combination with Pfizer's palbociclib, a cyclin-dependent kinase, or CDK 4/6 inhibitor, or Novartis' everolimus, an mTOR inhibitor, was effective in shrinking tumors. In preclinical patient-derived xenograft breast cancer models with either wild type or mutant ESR1, treatment with elacestrant resulted in marked tumor growth inhibition, and the combination of elacestrant with either agent, palbociclib or everolimus, showed anti-tumor activity that was significantly greater than either agent alone. We believe that this preclinical data suggests that elacestrant has the potential to overcome endocrine resistance, is well-tolerated, and has a profile that is well suited for use in combination therapy.

In December 2017, we announced additional preclinical data that continues to demonstrate elacestrant anti-tumor activity, as a single agent and in combination, in multiple models. In these preclinical models, elacestrant demonstrated marked tumor growth inhibition, as a single agent in models treated with multiple rounds of fulvestrant and in combination with CDK 4/6 inhibitors such as palbociclib and abemaciclib and with a phosphoinositide 3-kinase inhibitor, alpelisib.

Collaborations

In July 2016, we entered into a pre-clinical collaboration with Takeda Pharmaceutical Company Limited to evaluate the combination of elacestrant with Takeda's investigational drug TAK-228, an oral mTORC 1/2 inhibitor in Phase 2b development for the treatment of breast, endometrial and renal cancer, with the goal of potentially exploring such combination in a clinical study. We and Takeda have each agreed to contribute resources and supply compound material necessary for studies to be conducted under the collaboration and will share third party out-of-pocket research and development expenses. Activities under this collaboration are ongoing. Upon completion, both parties will agree upon the appropriate communication of the results.

In January 2016, we entered into a worldwide clinical collaboration with Novartis Pharmaceuticals to evaluate the safety and efficacy of combining elacestrant with Novartis' investigational agent LEE011 (ribociclib), a CDK 4/6 inhibitor, and BYL719 (alpelisib), an investigational phosphoinositide 3-kinase inhibitor. In January 2018, we terminated this collaboration following the completion of preclinical studies. We are evaluating additional opportunities to collaborate with companies to evaluate the safety and efficacy of combining elacestrant with other targeted agents for the treatment of breast cancer. We believe that such combinations may be suitable in earlier lines of treatment for patients with advanced disease.

RAD140

RAD140 is an internally discovered SARM. The androgen receptor, or AR, is highly expressed in many ER-positive, ER-negative, and triple-negative receptor breast cancers. Due to its receptor and tissue selectivity, potent activity, oral bioavailability, and long half-life, we believe RAD140 could have clinical potential in the treatment of breast cancer. We hold worldwide commercialization rights to RAD140.

In July 2016, we reported that RAD140 in preclinical xenograft models of breast cancer demonstrated potent tumor growth inhibition when administered alone or in combinations with CDK4/6 inhibitors. It is estimated that 77% of breast cancers show expression of the androgen receptor. Our data suggest that RAD140 activity at the androgen receptor leads to activation of AR signaling pathways including an AR-specific tumor suppressor and suppression of ER signaling. In April 2017, we presented these RAD140 preclinical results at a major scientific congress.

In September 2017, we initiated a Phase 1 study of RAD140 in patients with locally advanced or metastatic breast cancer. The clinical trial is designed to evaluate the safety and maximum tolerated dose of RAD140 in approximately 40 patients. Primary safety outcomes from the trial include rate of dose-limiting toxicities, adverse events related to treatment, and tolerability as measured by dose interruptions or adjustments. In addition, pharmacokinetics, pharmacodynamics and tumor response will also be evaluated. We expect to provide an update on our RAD140 development program by the end of 2018.

In March 2018, we decided to close our office located in Parsippany, New Jersey. For further discussion regarding this decision, see Note 14, "Commitments and Contingencies," to our Condensed Consolidated Financial Statements of this Quarterly Report on Form 10-Q.

Financial Overview

Product Revenue

Product revenue is derived from sales of TYMLOS, in the United States.

Research and Development Expenses

Research and development expenses consist primarily of clinical trial costs made to contract research organizations ("CROs"), salaries and related personnel costs, fees paid to consultants and outside service providers for regulatory and quality assurance support, licensing of drug compounds and other expenses relating to the manufacture, development, testing and enhancement of our product candidates. We expense our research and development costs as they are incurred.

None of the research and development expenses, in relation to our investigational product candidates, are currently borne by third parties. TYMLOS (abaloparatide-SC) historically has represented the largest portion of our research and development expenses for our development programs. We began tracking program expenses for TYMLOS (abaloparatide-SC) in 2005, and program expenses from inception to March 31, 2018 were approximately $216.1 million. We began tracking program expenses for abaloparatide-patch in 2007, and program expenses from inception to March 31, 2018 were approximately $42.9 million. We began tracking program expenses for elacestrant (RAD1901) in 2006, and program expenses from inception to March 31, 2018 were approximately $70.6 million. We began tracking program expenses for RAD140 in 2008, and program expenses from inception to March 31, 2018 were approximately $12.6 million. These expenses relate primarily to external costs associated with manufacturing, preclinical studies and clinical trial costs.

Costs related to facilities, depreciation, stock-based compensation, and research and development support services are not directly charged to programs as they benefit multiple research programs that share resources.

The following table sets forth our research and development expenses that are directly attributable to the programs listed below for the three months ended March 31, 2018 and 2017 (in thousands):

	Three Months Ended March 31,	
	2018	2017
Program-specific costs - external:		
Abaloparatide-SC*	$ 1,539	$ (999)
Abaloparatide-patch	806	705
Elacestrant (RAD1901)	2,599	2,878
RAD140	1,649	1,358
Total program-specific costs - external	$ 6,593	$ 3,942
Shared-services costs - external:		
R&D support costs	2,875	2,708
Other operating costs	723	641
Total shared-services costs - external	$ 3,598	$ 3,349
Shared-services costs - internal		
Personnel-related costs	8,488	8,016
Stock-based compensation	3,257	3,563
Occupancy costs	661	508
Depreciation expense	254	149
Total shared-services costs - internal	$ 12,660	$ 12,236
Total research and development costs	$ 22,851	$ 19,527

**2017 expenses were net of the FDA's refund of NDA fees of $2.4 million previously paid and expensed in the first quarter of 2016.*

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of salaries and related expenses for pre-launch and post-launch commercial operations, executive, finance and other administrative personnel, professional fees, business insurance, rent, general legal activities, including the cost of maintaining our intellectual property portfolio, and other corporate expenses.

Our results also include stock-based compensation expense as a result of the issuance of stock option grants to our employees, directors and consultants. The stock-based compensation expense is included in the respective categories of expense in our condensed consolidated statements of operations and comprehensive loss (i.e., research and development or general and administrative expenses).

Interest Income and Other Income

Interest income reflects interest earned on our cash, cash equivalents and marketable securities. Other income for the first half of 2017 reflects a portion of the Massachusetts Life Science Center awards recognized as income for certain taxes paid.

Interest Expense

Interest expense consists of interest expense related to the Convertible Notes. A portion of the interest expense on the Convertible Notes is non-cash expense relating to accretion of the debt discount and amortization of issuance costs.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission ("SEC"), and generally accepted accounting principles in the United States ("U.S. GAAP"). The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and

expenses, as well as related disclosures. We evaluate our policies and estimates on an ongoing basis, including those related to revenue recognition, accrued clinical expenses, research and development expenses, stock-based compensation and fair value measures, among others, which we discussed in our Annual Report on Form 10-K for the year ended December 31, 2017. We base our estimates on historical experience and various other assumptions that we believe are reasonable under the circumstances. Our actual results may differ from these estimates under different assumptions or conditions.

We have reviewed our policies and estimates to determine our critical accounting policies for the three months ended March 31, 2018. Significant accounting policies over revenue are detailed below. There were no changes to significant accounting policies during the three months ended March 31, 2018, except for the adoption of three Accounting Standards Updates issued by the Financial Accounting Standards Board, as disclosed above within Note 2, "Basis of Presentation and Significant Accounting Policies," in the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Revenue recognition—On April 28, 2017, the FDA approved TYMLOS in the U.S. Subsequent to receiving FDA approval, we entered into a limited number of arrangements with wholesalers in the U.S. (collectively, our "Customers") to distribute TYMLOS. These arrangements are our initial contracts with customers and, as a result, we adopted Accounting Standards Codification ("ASC") Topic 606 - *Revenue from Contracts with Customers* ("Topic 606"). There is no transition to Topic 606 because we had no historical revenue. This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements, and financial instruments. Under Topic 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to be entitled in exchange for those goods or services.

To determine revenue recognition for arrangements that an entity determines are within the scope of Topic 606, the entity performs the following five steps: (i) identify the contract(s) with a customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations in the contract, and (v) recognize revenue when (or as) the entity satisfies a performance obligation. We only apply the five-step model to arrangements that meet the definition of a contract under Topic 606, including when it is probable that we will collect the consideration we are entitled to in exchange for the goods or services we transfer to our customer. At contract inception, once the contract is determined to be within the scope of Topic 606, we assess the goods or services promised within each contract and determine those that are performance obligations, and assess whether each promised good or service is distinct. We then recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Product Revenue, Net—We sell TYMLOS to our Customers. These Customers subsequently resell our products to specialty pharmacy providers, as well as other retail pharmacies and certain medical centers or hospitals. In addition to distribution agreements with Customers, we enter into arrangements with specialty pharmacies, health care providers and payors that provide for government mandated and/or privately negotiated rebates, chargebacks, and discounts with respect to the purchase of our products.

We recognize revenue on product sales when the Customer obtains control of our product, which occurs at a point in time (upon delivery). Product revenues are recorded net of applicable reserves for variable consideration, including discounts and allowances. Payment from Customers is typically due within 31 calendar days of the invoice date.

If taxes should be collected from Customers relating to product sales and remitted to governmental authorities, they will be excluded from revenue. We expense incremental costs of obtaining a contract when incurred, if the expected amortization period of the asset that we would have recognized is one year or less. However, no such costs were incurred during the three months ended March 31, 2018.

Reserves for Variable Consideration—Revenues from product sales are recorded at the net sales price (transaction price), which includes estimates of variable consideration for which reserves are established. Components of variable consideration include trade discounts and allowances, product returns, provider chargebacks and discounts, government rebates, payor rebates, and other incentives, such as voluntary patient assistance, and other allowances that are offered within contracts between us and our Customers, payors, and other indirect customers relating to the sale of our products. These reserves, as detailed below, are based on the amounts earned, or to be claimed on the related sales, and are classified as reductions of accounts receivable (if the amount is payable to the Customer) or a current liability (if the amount is payable to a party other than a Customer). These estimates take into consideration a range of possible outcomes which are probability-weighted in accordance with the expected value method in Topic 606 for relevant factors such as current contractual and statutory requirements, specific known market events and trends, industry data, and forecasted customer buying and payment patterns. Overall, these reserves reflect our best estimates of the amount of consideration to which it is entitled based on the terms of the respective underlying contracts.

The amount of variable consideration which is included in the transaction price may be constrained, and is included in the net sales price only to the extent that it is probable that a significant reversal in the amount of the cumulative revenue recognized under the contract will not occur in a future period. Our analyses also contemplated application of the constraint in accordance with the guidance, under which it determined a material reversal of revenue would not occur in a future period for the estimates detailed below as of March 31, 2018 and, therefore, the transaction price was not reduced further during the three months ended March 31, 2018. Actual amounts of consideration ultimately received may differ from our estimates. If actual results in the future vary from our estimates, we will adjust these estimates, which would affect net product revenue and earnings in the period such variances become known.

Trade Discounts and Allowances—We generally provide Customers with discounts which include incentive fees that are explicitly stated in our contracts and are recorded as a reduction of revenue in the period the related product revenue is recognized. In addition, we compensate (through trade discounts and allowances) our Customers for sales order management, data, and distribution services. However, we have determined such services received to date are not distinct from the sale of our products to the Customer and, therefore, these payments have been recorded as a reduction of revenue within the statement of operations and comprehensive loss through March 31, 2018, as well as a reduction to trade receivables, net on the condensed consolidated balance sheets.

Product Returns—Consistent with industry practice, we generally offer Customers a limited right of return for product that has been purchased from us based on the product's expiration date, which lapses upon shipment to a patient. We estimate the amount of product sales that may be returned by our Customers and record this estimate as a reduction of revenue in the period the related product revenue is recognized, as well as reductions to trade receivables, net on the condensed consolidated balance sheets. We currently estimate product return liabilities using available industry data and our own sales information, including our visibility into the inventory remaining in the distribution channel. We have received an immaterial amount of returns to date and believe that returns of product in future periods will be minimal.

The Company's limited right of return policy allows for eligible returns of TYMLOS in the following circumstances:

- Shipment errors that were the result of an error by us;
- Quantity delivered that is greater than the quantity ordered;
- Product distributed by us that is damaged in transit prior to receipt by the customer;
- Expired product, previously purchased directly from us, that is returned during the period beginning six months prior to the product's expiration date and ending twelve months after the product's expiration date;
- Product subject to a recall; and
- Product that we, at our sole discretion, have specified to be returned.

Provider Chargebacks and Discounts—Chargebacks for fees and discounts to providers represent the estimated obligations resulting from contractual commitments to sell products to qualified healthcare providers at prices lower than the list prices charged to Customers who directly purchase the product from us. Customers charge us for the difference between what they pay for the product and the ultimate selling price to the qualified healthcare providers. These reserves are established in the same period that the related revenue is recognized, resulting in a reduction of product revenue and trade receivables, net. Chargeback amounts are generally determined at the time of resale to the qualified healthcare provider by Customers, and we generally issue credits for such amounts within a few weeks of the Customer's notification to us of the resale. Reserves for chargebacks consist of credits that we expect to issue for units that remain in the distribution channel inventories at each reporting period-end that we expect will be sold to qualified healthcare providers, and chargebacks that Customers have claimed, but for which we have not yet issued a credit.

Government Rebates—We are subject to discount obligations under state Medicaid programs and Medicare. These reserves are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of a current liability which is included in accrued expenses and other current liabilities on the condensed consolidated balance sheets. For Medicare, we also estimate the number of patients in the prescription drug coverage gap for whom we will owe an additional liability under the Medicare Part D program. Our liability for these rebates consist of invoices received for claims from prior quarters that have not been paid or for which an invoice has not yet been received, estimates of claims for the current quarter, and estimated future claims that will be made for product that has been recognized as revenue, but which remains in the distribution channel inventories at the end of each reporting period.

Payor Rebates—We contract with certain private payor organizations, primarily insurance companies and pharmacy benefit managers, for the payment of rebates with respect to utilization of its products. We estimate these rebates and record such

estimates in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of a current liability.

Product Revenue Reserves and Allowances—Chargebacks, discounts, fees, and returns are recorded as reductions of trade receivables, net on the condensed consolidated balance sheets. Government and other rebates are recoded as a component of accrued expenses and other current liabilities on the condensed consolidated balance sheets.

Other Incentives—Other incentives which we offer include voluntary patient assistance programs, such as our co-pay assistance program, which are intended to provide financial assistance to qualified commercially-insured patients with prescription drug co-payments required by payors. The calculation of the accrual for co-pay assistance is based on an estimate of claims and the cost per claim that we expect to receive associated with product that has been recognized as revenue, but remains in the distribution channel inventories at the end of each reporting period. The adjustments are recorded in the same period the related revenue is recognized, resulting in a reduction of product revenue and the establishment of a current liability which is included as a component of accrued expenses and other current liabilities on the condensed consolidated balance sheets.

Collaboration Revenues—We enter into out-licensing agreements which are within the scope of Topic 606, under which we license certain rights to our product candidates to third parties. The terms of these arrangements typically include payment to us of one or more of the following: non-refundable, up-front license fees; development, regulatory, and commercial milestone payments; payments for manufacturing supply services we provide through our contract manufacturers; and royalties on net sales of licensed products. Each of these payments may result in license, collaboration, or other revenue, except revenue from royalties on net sales of licensed products, which would be classified as royalty revenue.

In determining the appropriate amount of revenue to be recognized as it fulfills its obligations under each of its agreements, we perform the following steps: (i) identification of the promised goods or services in the contract; (ii) determination of whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract; (iii) measurement of the transaction price, including the constraint on variable consideration; (iv) allocation of the transaction price to the performance obligations; and (v) recognition of revenue when (or as) we satisfy each performance obligation. As part of the accounting for these arrangements, we must develop assumptions that require judgment to determine the stand-alone selling price for each performance obligation identified in the contract. We use key assumptions to determine the stand-alone selling price, which may include forecasted revenues, development timelines, reimbursement rates for personnel costs, discount rates, and probabilities of technical and regulatory success.

Licenses of Intellectual Property—If the license to our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we recognize revenue from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are bundled with other promises, we utilize judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company will evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

Milestone Payments—At the inception of each arrangement that includes development milestone payments, we evaluate whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the control of us or the customer, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which we recognize revenue as, or when, the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, we will re-evaluate the probability of achievement of such development milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect license, collaboration, other revenue, and earnings in the period of adjustment.

Manufacturing Supply Services—Arrangements that include a promise for future supply of drug substance or drug product for either clinical development or commercial supply, at the customer's discretion, are generally considered as options. We assess if these options provide a material right to the licensee and, if so, they are accounted for as separate performance obligations. If we are entitled to additional payments when the licensee exercises these options, any additional payments are recorded in license, collaboration, or other revenue when the customer obtains control of the goods, which is upon delivery.

Royalties—For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, we recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all the royalty has been allocated has been

satisfied (or partially satisfied). To date, we have not recognized any royalty revenue resulting from its out-licensing arrangement.

Results of Operations

Three Months Ended March 31, 2018 and 2017 (in thousands, except percentages)

	Three Months Ended March 31,		Change	
	2018	2017	$	%
Revenues:				
Product revenue, net	$ 14,547	$ —	$ 14,547	100 %
Operating expenses:				
Cost of sales - product	1,088	—	1,088	100 %
Cost of sales - intangible amortization	200	—	200	100 %
Research and development	22,851	19,527	3,324	17 %
Selling, general and administrative	48,025	38,099	9,926	26 %
Loss from operations	(57,617)	(57,626)	(9)	— %
Other (expense) income:				
Other (expense) income, net	(104)	80	184	230 %
Interest expense	(5,566)	—	5,566	100 %
Interest income	1,732	607	1,125	185 %
Net loss	$ (61,555)	$ (56,939)	$ 4,616	8 %

Product revenue— We began U.S. commercial sales of TYMLOS in May 2017, following receipt of FDA marketing approval on April 28, 2017. For the three months ended March 31, 2018 we recorded approximately $14.5 million of net product revenue. For further discussion regarding our revenue recognition policy, see Note 2, “Basis of Presentation and Significant Accounting Policies”, in the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Cost of sales— Cost of sales of $1.3 million for the three months ended March 31, 2018, consisted of costs associated with the manufacturing of TYMLOS, royalties owed to our licensor for such sales, and certain period costs. Based on our policy to expense costs associated with the manufacture of our products prior to regulatory approval, certain of the costs of TYMLOS units recognized as revenue during the three months ended March 31, 2018 were expensed prior to the April 2017 FDA approval and, therefore, are not included in cost of sales during this period. We expect cost of sales to increase in relation to product revenues as we deplete these inventories.

Research and development expenses— For the three months ended March 31, 2018, research and development expense was $22.9 million compared to $19.5 million for the three months ended March 31, 2017, an increase of $3.3 million, or 17%. This increase was primarily driven by a $2.5 million increase in abaloparatide-SC project costs, a $0.6 million increase in Elacestrant project costs, a $0.3 million increase in RAD140 project costs, and a $0.1 million increase in abaloparatide-patch project costs. These increases were partially offset by a $0.9 million decrease in vasomotor project related spending. Additionally, there was an increase in headcount from 111 research and development employees as of March 31, 2017 to 131 research and development employees as of March 31, 2018.

Selling, general and administrative expenses— For the three months ended March 31, 2018, selling, general and administrative expense was $48.0 million compared to $38.1 million for the three months ended March 31, 2017, an increase of $9.9 million, or 26%. This increase was primarily the result of $6.6 million and $2.3 million increases in compensation and travel related expenses, respectively, due to an increase in headcount from 363 selling, general and administrative employees as of March 31, 2017 to 405 selling, general and administrative employees as of March 31, 2018.

Interest income—For the three months ended March 31, 2018, interest income was approximately $1.7 million compared to $0.6 million for the three months ended March 31, 2017, an increase of $1.1 million, or 185%. This increase was primarily due to the combined effects of an increase in the balance of our investments coupled with an increase in the rate of return on investments in the three months ended March 31, 2018 as compared to those of the three months ended March 31, 2017.

Interest expense—For the three months ended March 31, 2018, interest expense was approximately $5.6 million compared to $0 for the three months ended March 31, 2017, an increase of $5.6 million, or 100%. This increase was the result of the issuance of the Convertible Notes during the three months ended September 30, 2017, while there was no debt outstanding for the three months ended March 31, 2017.

Liquidity and Capital Resources

From inception to March 31, 2018, we have incurred an accumulated deficit of $943.8 million, primarily as a result of expenses incurred through a combination of research and development activities related to our various product candidates and expenses supporting those activities. Our total cash, cash equivalents, marketable securities, and investments balance as of March 31, 2018 was $367.3 million. We have financed our operations since inception primarily through the public offerings of our common stock, issuance of convertible debt, private sales of preferred stock, and borrowings under credit facilities. Following our U.S. commercial launch of TYMLOS in May 2017, we have begun financing a portion of our operations through product revenue.

Based upon our cash, cash equivalents and marketable securities balance as of March 31, 2018, we believe that, prior to the consideration of proceeds from partnering and/or collaboration activities, we have sufficient capital to fund our development plans, U.S. commercial and other operational activities for not less than twelve months from the date of this filing. We expect to finance the future U.S. commercial activities and development costs of our clinical product portfolio with our existing cash, cash equivalents and marketable securities, as well as through future product sales, or through strategic financing opportunities, that could include, but are not limited to partnering or other collaboration agreements, future offerings of equity, royalty-based financing arrangements, the incurrence of additional debt, or other alternative financing arrangements, which may involve a combination of the foregoing.

There is no guarantee that any of these strategic or financing opportunities will be executed or executed on favorable terms, and some could be dilutive to existing stockholders. Our future capital requirements will depend on many factors, including the scope of and progress in our research and development and commercialization activities, the results of our clinical trials, and the review and potential approval of our products by the FDA or other foreign regulatory authorities. The successful development of our product candidates is subject to numerous risks and uncertainties associated with developing drugs, which could have a significant impact on the cost and timing associated with the development of our product candidates. If we fail to obtain additional future capital, we may be unable to complete our planned commercialization activities or complete preclinical and clinical trials and obtain approval of any of our product candidates from the FDA and foreign regulatory authorities.

TYMLOS is our only approved product and our business currently depends heavily on its successful commercialization. Successful commercialization of an approved product is an expensive and uncertain process. See “Risk Factors — Risks Related to the Discovery, Development and Commercialization of Our Product Candidates” set forth in Part I, “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2017.

The following table sets forth the major sources and uses of cash for each of the periods set forth below (in thousands):

	Three Months Ended March 31,		Change	
	2018	2017	$	%
Net cash (used in) provided by:				
Operating activities	$ (70,232)	$ (52,764)	$ (17,468)	(33)%
Investing activities	(561)	(34,004)	33,443	(98)%
Financing activities	8,317	2,822	5,495	195 %
Net decrease in cash and cash equivalents	$ (62,476)	$ (83,946)	21,470	26 %

Cash Flows from Operating Activities

Net cash used in operating activities during the three months ended March 31, 2018 was $70.2 million, which was primarily the result of a net loss of $61.6 million, partially offset by $11.3 million of net non-cash adjustments to reconcile net loss to net cash used in operations and net changes in working capital of $20.0 million. The $61.6 million net loss was primarily due to abaloparatide-SC project costs, elacestrant and RAD140 program development expenses along with employee compensation incurred to support the commercialization of TYMLOS in the United States. The $11.3 million net non-cash adjustments to reconcile net loss to net cash used in operations included stock-based compensation expense of $7.5 million, amortization of debt discount of $3.3 million, and depreciation of $0.7 million.

Net cash used in operating activities during the three months ended March 31, 2017 was $52.8 million, which was primarily the result of a net loss of $56.9 million, partially offset by $9.3 million of net non-cash adjustments to reconcile net loss to net cash used in operations and net changes in working capital of $5.0 million. The $56.9 million net loss was primarily due to abaloparatide-SC program development expenses, including clinical and manufacturing costs, along with employee compensation and consulting costs incurred to support regulatory submissions and preparation for the commercial launch of TYMLOS in the United States. The $9.3 million net non-cash adjustments to reconcile net loss to net cash used in operations included stock-based compensation expense of $9.1 million, and depreciation of $0.3 million.

Cash Flows from Investing Activities

Net cash used in investing activities during the three months ended March 31, 2018 was $0.6 million, which was primarily the result of $0.5 million of purchases of marketable securities.

Net cash used in investing activities during the three months ended March 31, 2017 was $34.0 million, which was primarily the result of $72.0 million of purchases of marketable securities partially offset by $38.4 million of net proceeds received from the sale or maturity of marketable securities.

Our investing cash flows will be impacted by the timing of our purchases and sales of our marketable securities. Because our marketable securities are primarily short-term in duration, we would not expect our operational results or cash flows to be significantly affected by a change in market interest rates.

Cash Flows from Financing Activities

Net cash provided by financing activities during the three months ended March 31, 2018 was $8.3 million, which primarily consisted of $6.6 million of proceeds received from exercises of stock options and $1.7 million received upon issuance of common stock under the Radius Health, Inc. 2016 Employee Stock Purchase Plan.

Net cash provided by financing activities during the three months ended March 31, 2017 was $2.8 million, which consisted of $1.8 million of proceeds received from the exercise of stock options and $1.0 million received upon issuance of common stock under the Radius Health, Inc. 2016 Employee Stock Purchase Plan.

Borrowings and Other Liabilities

In August 2017, we issued $300.0 million aggregate principal amount of the Convertible Notes, as discussed in more detail in Note 8, “Convertible Notes Payable,” to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q. We received net proceeds of approximately $290.8 million from the sale of the Convertible Notes, after deducting fees and expenses of $9.2 million. In addition, in September 2017, we issued an additional $5.0 million aggregate principal amount of the Convertible Notes pursuant to the exercise of an over-allotment option granted to the underwriters in the offering. We received net proceeds of approximately $4.8 million from the sale of the over-allotment option, after deducting fees and expenses of $0.2 million.

Future minimum payments on our long-term debt as of March 31, 2018 were as follows (in thousands):

Years ended December 31,	Future Minimum Payments
2018	4,575
2019	9,150
2020	9,150
2021	9,150
2022	9,150
2023 and Thereafter	$ 323,300
Total minimum payments	$ 364,475
Less: interest	(59,475)
Less: unamortized discount	(135,716)
Less: current portion	—

Long Term Debt	$	169,284

Contractual Obligations

Supply and Manufacturing Agreements

In June 2016, we entered into a Supply Agreement with Ypsomed AG ("Ypsomed"), pursuant to which Ypsomed agreed to supply commercial and clinical supplies of a disposable pen injection device customized for subcutaneous injection of abaloparatide, the active pharmaceutical ingredient ("API") for TYMLOS. We agreed to purchase a minimum number of devices at prices per device that decrease with an increase in quantity supplied. In addition, we have made milestone payments for Ypsomed's capital developments in connection with the initiation of the commercial supply of the device and paid a one-time capacity fee. All costs and payments under the agreement are delineated in Swiss Francs. The agreement has an initial term of three years, which began on June 1, 2017, after which, it automatically renews for two-year terms unless either party terminates the agreement upon 18 months' notice prior to the end of the then-current term. We agreed to purchase the devices at prices based on the quantity ordered, subject to an annual increase by Ypsomed and subject to minimum annual quantity requirements over the initial three-year term of the agreement. We are required to purchase a minimum number of batches equal to approximately CHF 0.5 million (approximately $0.5 million) per year and approximately CHF 2.9 million (approximately $3.0 million) in total, subject to any annual price adjustments, during the initial term.

In June 2016, we entered into a Commercial Supply Agreement with Vetter Pharma International GmbH ("Vetter", pursuant to which Vetter has agreed to formulate the finished abaloparatide-SC drug product, to fill cartridges with the drug product, to assemble the pen delivery device, and to package the pen for commercial distribution. We agreed to purchase the cartridges and pens in specified batch sizes at a price per unit. For labeling and packaging services, we agreed to pay a per unit price dependent upon the number of pens loaded with cartridges that are labeled and packaged. These prices are subject to an annual price adjustment. The agreement has an initial term of five years, which began on January 1, 2016, after which, it automatically renews for two-year terms unless either party notifies the other party two years before the end of the then-current term that it does not intend to renew.

In July 2016, we entered into a Manufacturing Services Agreement with Polypeptide Laboratories Holding AB ("PPL"), as successor-in-interest to Lonza Group Ltd., pursuant to which PPL agreed to manufacture the commercial and clinical supplies of the API for abaloparatide. We agreed to purchase the API in batches at a price per gram in euros, subject to an annual increase by PPL. The agreement has an initial term of a six years, which began on June 28, 2016, after which, it automatically renews for three-year terms unless either party provides notice of non-renewal 24 months before the end of the then-current term. We are also required to purchase a minimum number of batches annually, equal to approximately €2.9 million (approximately $3.4 million) per year and approximately €16.1 million (approximately $19.9 million) in total, subject to any annual price adjustments, during the initial term.

License Agreement Obligations

TYMLOS (abaloparatide)

In September 2005, we entered into a license agreement with Ipsen, as amended, or the License Agreement, under which we exclusively licensed certain Ipsen compound technology and related patents covering abaloparatide to research, develop, manufacture and commercialize certain compounds and related products in all countries, except Japan (where we have an option to negotiate a co-promotion agreement for abaloparatide-SC with Teijin) and France (where our commercialization rights were subject to certain co-marketing and co-promotion rights exercisable by Ipsen, provided that certain conditions included in the License Agreement were met). We believe that Ipsen's co-marketing and co-promotion rights in France have permanently expired. Ipsen also granted us an exclusive right and license under the Ipsen compound technology and related patents to make and have made compounds or product in Japan. Ipsen further granted us an exclusive right and license under certain Ipsen formulation technology and related patents solely for purposes of enabling us to develop, manufacture and commercialize compounds and products covered by the compound technology license in all countries, except Japan and France (as discussed above).

In consideration for the rights to abaloparatide and in recognition of certain milestones having been met to date, we have paid to Ipsen an aggregate amount of $13.0 million. The License Agreement further requires us to make payments upon the achievement of certain future regulatory and commercial milestones. Total additional milestone payments that could be payable under the agreement are €24.0 million (approximately $29.6 million). In connection with the FDA's approval of TYMLOS in April 2017, we paid Ipsen a milestone of €8.0 million (approximately $8.7 million) under the License Agreement, which we have recorded as an intangible asset and will amortize over the remaining patent life or the estimated useful life of the underlying product, whichever is shorter. The agreement also provides that we will pay to Ipsen a fixed five percent royalty based on net sales of the product by us or our sublicensees on a country-by-country basis until the later of the last to expire of the licensed patents or for a period of 10 years after the first commercial sale in such country. The date of the last to expire of the abaloparatide patents licensed from or co-owned with Ipsen, barring any extension thereof, is expected to be March 26, 2028.

If we sublicense abaloparatide to a third party, the agreement provides that we would pay a percentage of certain payments received from such sublicensee (in lieu of milestone payments not achieved at the time of such sublicense). The applicable percentage is in the low double-digit range. In addition, if we or our sublicensees commercialize a product that includes a compound discovered by us based on or derived from confidential Ipsen know-how, the agreement provides that we would pay to Ipsen a fixed low single-digit royalty on net sales of such product on a country-by-country basis until the later of the last to expire of our patents that cover such product or for a period of 10 years after the first commercial sale of such product in such country.

The License Agreement expires on a country-by-country basis on the later of (1) the date the last remaining valid claim in the licensed patents expires in that country, or (2) a period of 10 years after the first commercial sale of the licensed products in such country, unless it is sooner terminated in accordance with its terms.

Prior to executing the License Agreement for abaloparatide with Radius, Ipsen licensed the Japanese rights for abaloparatide to Teijin. Teijin has initiated a Phase 3 clinical study of abaloparatide-SC in Japan for the treatment of postmenopausal osteoporosis. We have an option to negotiate a co-promotion agreement with Teijin for abaloparatide-SC in Japan and we maintain full global rights to our development program for abaloparatide-patch.

We are currently in arbitration proceedings with Ipsen in connection with the License Agreement. See “Legal Proceedings” for more information.

Abaloparatide-patch

In February 2018, we entered into a Scale-Up And Commercial Supply Agreement (the “Supply Agreement”) with 3M Company and 3M Innovative Properties Company (collectively with 3M Company, “3M”), pursuant to which 3M has agreed to exclusively manufacture Phase 3 and global commercial supplies of an abaloparatide-coated transdermal patch product (“Product”) and associated applicator devices (“Applicator”). Under the Supply Agreement, 3M agreed to manufacture Product and Applicator for us according to agreed-upon specifications in sufficient quantities to meet our projected supply requirements. 3M agreed to manufacture commercial supplies of Product at unit prices that decrease with an increase in the quantity we order. We are obligated to pay 3M a mid-to-low single-digit royalty on worldwide net sales of Product and reimburse 3M for certain capital expenditures incurred to establish commercial supply of Product. We are responsible for providing, at our expense, supplies of abaloparatide drug substance to be used in manufacturing Product. During the term of the Supply Agreement, 3M and Radius have agreed to work exclusively with each other with respect to the delivery of abaloparatide, parathyroid hormone (“PTH”), and/or PTH related proteins via active transdermal, intradermal, or microneedle technology. There have been no payments to 3M with respect to the Supply Agreement through March 31, 2018.

The initial term of the Supply Agreement began on its effective date and will continue for five years after the first commercial sale of Product. The Supply Agreement then automatically renews for successive three-year terms, unless earlier terminated pursuant to its terms or upon either party’s notice of termination to the other 24 months prior to the end of the then-current term. The Supply Agreement may be terminated by either party upon an uncured material breach of its terms by the other party, or due to the other party’s bankruptcy, insolvency, or dissolution. We may terminate the Supply Agreement upon the occurrence of certain events, including for certain clinical, technical, or commercial reasons impacting Product, if we are unable to obtain U.S. regulatory approval for Product within a certain time period, or if we cease development or commercialization of Product. 3M may terminate the Supply Agreement upon the occurrence of certain events, including if there are certain safety issues related to Product, if we are unable to obtain U.S. regulatory approval for Product within a certain time period, or if we fail to order Product for a certain period of time after commercial launch of the Product in the U.S. Upon certain events of termination, 3M is required to transfer the manufacturing processes for Product and Applicator to us or a mutually agreeable third party and continue supplying Product and Applicator for a period of time pursuant to our projected supply requirements.

In June 2009, we entered into a Development and Clinical Supplies Agreement with 3M, as amended (the “Development Agreement”), under which Product and Applicator development activities occur and 3M has manufactured phase 1 and 2 clinical trial supplies for us on an exclusive basis. The term of the Development Agreement runs until June 2019 and then automatically renews for additional one-year terms, unless earlier terminated, until the earliest of (i) the expiration or termination of the Supply Agreement, (ii) the mutual written agreement of the parties, or (iii) prior written notice by either party to the other party at least ninety days prior to the end of the then-current term of the Development Agreement that such party declines to extend the term. Either party may terminate the agreement in the event of an uncured material breach by the other party. We pay 3M for services delivered pursuant to the agreement on a fee-for-service or a fee-for-deliverable basis as specified in the agreement. We have paid 3M approximately $21.5 million, in the aggregate, through March 31, 2018 with respect to services and deliverables delivered pursuant to the Development Agreement.

Elacestrant (Eisai)

In June 2006, we entered into a license agreement ("Eisai Agreement"), with Eisai Co. Ltd. ("Eisai"). Under the Eisai Agreement, Eisai granted to us an exclusive right and license to research, develop, manufacture and commercialize elacestrant (RAD1901) and related products from Eisai in all countries, except Japan. In consideration for the rights to elacestrant, we paid Eisai an initial license fee of $0.5 million, which was expensed during 2006. In March 2015, we entered into an amendment to the Eisai Agreement, or the "Eisai Amendment," in which Eisai granted to us the exclusive right and license to research, develop, manufacture and commercialize elacestrant in Japan. In consideration for the rights to elacestrant in Japan, we paid Eisai an initial license fee of $0.4 million upon execution of the Eisai Amendment, which was recognized as research and development expense in 2015. The Eisai Agreement, as amended, also provides for additional payments of up to $22.3 million, payable upon the achievement of certain future clinical and regulatory milestones.

Under the Eisai Agreement, as amended, should a product covered by the licensed technology be commercialized, we will be obligated to pay to Eisai royalties in a variable mid-single-digit range based on net sales of the product on a country-by-country basis. The royalty rate will be reduced, on a country-by-country basis, at such time as the last remaining valid claim in the licensed patents expires, lapses or is invalidated and the product is not covered by data protection clauses. In addition, the royalty rate will be reduced, on a country-by-country basis, if, in addition to the conditions specified in the previous sentence, sales of lawful generic versions of such product account for more than a specified minimum percentage of the total sales of all products that contain the licensed compound during a calendar quarter. The latest licensed patent is expected to expire, barring any extension thereof, on August 18, 2026.

The Eisai Agreement, as amended, also grants us the right to grant sublicenses with prior written approval from Eisai. If we sublicense the licensed technology to a third party, we will be obligated to pay Eisai, in addition to the milestones referenced above, a fixed low double-digit percentage of certain fees received from such sublicensee and royalties in the low single-digit range based on net sales of the sublicensee. The Eisai Agreement expires on a country-by-country basis on the later of (1) the date the last remaining valid claim in the licensed patents expires, lapses or is invalidated in that country, the product is not covered by data protection clauses, and the sales of lawful generic versions of the product account for more than a specified percentage of the total sales of all pharmaceutical products containing the licensed compound in that country; or (2) a period of 10 years after the first commercial sale of the licensed products in such country, unless it is sooner terminated.

Elacestrant (Duke)

In December 2017, we entered into a patent license agreement (the “Duke Agreement”) with Duke University (“Duke”). Under the Duke Agreement, we acquired an exclusive worldwide license to certain Duke patents associated with elacestrant (RAD1901) related to the use of elacestrant in the treatment of breast cancer as a monotherapy and in a combination therapy (collectively, the “Duke Patents”).

In consideration for these rights, we incurred non-refundable, non-creditable obligations to pay Duke an aggregate of $1.3 million, which were expensed as research and development costs during 2017. The Duke Agreement provides for additional payments upon the achievement of certain regulatory and commercial milestones totaling up to $3.8 million. The agreement provides that we would pay Duke a fixed low single-digit royalty based on net sales of a licensed product, on a country-by-country basis, beginning in August 2029 and ending upon expiration of the last licensed patent rights to expire in a country.

If we sublicense the Duke Patents to a third party, the agreement provides that we will pay Duke a percentage of certain payments we received from such sublicensee(s). The applicable percentage is in the high single-digit range on certain payments received in excess of a pre-specified amount. The Duke Agreement may be terminated by either party upon an uncured material breach of the agreement by the other party. We may terminate the agreement upon 60 days written notice to Duke, if we suspend our manufacture, use and sale of the licensed products.

Abaloparatide-SC (Teijin)

In July 2017, we entered into a license and development agreement with Teijin for abaloparatide-SC in Japan. Teijin is developing abaloparatide-SC in Japan under an agreement with Ipsen and has initiated a Phase 3 trial in Japanese patients with osteoporosis. Pursuant to the Teijin Agreement, we granted Teijin (i) an exclusive payment bearing license under certain of our intellectual property to develop and commercialize abaloparatide-SC in Japan, (ii) a non-exclusive payment bearing license under certain of our intellectual property to manufacture abaloparatide-SC for commercial supply in Japan, (iii) a right of reference to certain of our regulatory data related to abaloparatide-SC for purposes of developing, manufacturing and commercializing abaloparatide-SC in Japan, (iv) a manufacture transfer package, upon Teijin’s request, consisting of information and our know-how that is necessary for the manufacture of active pharmaceutical ingredient and abaloparatide-SC, (v) a right to request that we manufacture (or arrange for a third party to manufacture) and supply (or arrange for a third party to supply) the active pharmaceutical ingredient for the clinical supply of abaloparatide-SC in sufficient quantities to enable Teijin to conduct its clinical trials in Japan, and (vi) a right to request that we arrange for Teijin to directly enter into

commercial supply agreements with our existing contract manufacturers on the same pricing terms and on substantially similar commercial terms to those set forth in our existing agreements with such contract manufacturers.

In consideration for these rights, we received an upfront payment of $10.0 million. The Teijin Agreement also provides for additional payments to us of up to an aggregate of $40.0 million upon the achievement of certain regulatory and sales milestones, and requires Teijin to pay us a fixed low double-digit royalty based on net sales of abaloparatide-SC in Japan during the royalty term, as defined below. In addition, we have an option to negotiate a co-promotion agreement with Teijin for abaloparatide-SC in Japan.

Teijin granted us (i) an exclusive license under certain of Teijin's intellectual property to develop, manufacture and commercialize abaloparatide-SC outside Japan and (ii) a right of reference to certain of Teijin's regulatory data related to abaloparatide-SC for purposes of developing, manufacturing and commercializing abaloparatide-SC outside Japan. We maintain full global rights to its development program for abaloparatide-patch, which is not part of the Teijin Agreement. Pursuant to the Teijin Agreement, the parties may further collaborate on new indications for abaloparatide-SC.

Unless earlier terminated, the Teijin Agreement expires on the later of the (i) date on which the use, sale or importation of abaloparatide-SC is no longer covered by a valid claim under our patent rights licensed to Teijin in Japan, (ii) expiration of marketing or data exclusivity for abaloparatide-SC in Japan, or (iii) 10th anniversary of the first commercial sale of abaloparatide-SC in Japan.

Net Operating Loss Carryforwards

As of December 31, 2017, we had federal and state net operating loss carryforwards of approximately $751.7 million and $669.3 million, respectively, subject to limitation, as described below. If not utilized, the net operating loss carryforwards will expire at various dates through 2036.

Under Section 382 of the Internal Revenue Code of 1986, or Section 382, substantial changes in our ownership may limit the amount of net operating loss carryforwards that could be used annually in the future to offset taxable income. We have completed studies through December 31, 2015, to determine whether any ownership change has occurred since our formation and have determined that transactions have resulted in two ownership changes, as defined under Section 382. There could be additional ownership changes in the future that could further limit the amount of net operating loss and tax credit carryforwards that we can utilize.

A full valuation allowance has been recorded against our net operating loss carryforwards and other deferred tax assets, as the realization of the deferred tax asset is uncertain. As a result, we have not recorded any federal or state income tax benefit in our condensed consolidated statements of operations.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements or any relationships with unconsolidated entities of financial partnerships, such as entities often referred to as structured finance or special purpose entities.

New Accounting Standards

See Note 2 - *Basis of Presentation and Significant Accounting Policies - Accounting Standards Updates* in the accompanying unaudited condensed consolidated financial statements in this Quarterly Report for a discussion of new accounting standards.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

We are exposed to market risk related to changes in the dollar/euro and dollar/Swiss franc exchange rates because a portion of our development and costs of goods expenses are denominated in foreign currencies. We do not hedge our foreign currency exchange rate risk. However, an immediate 10% adverse change in the dollar/euro or dollar/Swiss Franc exchange rate would not have a material effect on our financial results.

We are exposed to market risk related to changes in interest rates. As of March 31, 2018, we had cash, cash equivalents, short-term marketable securities and investments of $367.3 million, consisting of cash, money market funds, domestic corporate debt securities, domestic corporate commercial paper and agency bonds. This 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 investments are in marketable securities. Because our marketable securities are short-term in duration, and have a low risk profile, an immediate 10% change in interest rates would not have a material effect on the fair market value of our portfolio. We generally have the ability to hold our investments until maturity, and therefore we would not expect our operating results or cash flows to be affected to any significant degree by a change in market interest rates on our investments. We carry our investments based on publicly available information. As of March 31, 2018, we do not have any hard-to-value investment securities or securities for which a market is not readily available or active.

We are not subject to significant credit risk as this risk does not have the potential to materially impact the value of our assets and liabilities.

Item 4. Controls and Procedures.

Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of March 31, 2018.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting during the three months ended March 31, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II— OTHER INFORMATION

Item 1. Legal Proceedings.

In November 2016, we received notice that in October 2016, Ipsen had initiated arbitration proceedings against us in the International Chamber of Commerce's International Court of Arbitration. Ipsen's Request for Arbitration alleged that we breached various provisions of the License Agreement concerning abaloparatide, including with regard to Ipsen's right to co-promote abaloparatide in France and a license from us with respect to Japan. Ipsen is seeking declaratory relief, compliance with the License Agreement, damages, costs and fees as a result of the purported breaches, and has alleged the monetary value of these claims is approximately €50 million (approximately $61.6 million).

In January 2017, we submitted an Answer denying Ipsen's claims and alleging counterclaims against Ipsen for breach of the License Agreement and other declaratory judgment. We asserted, among other things, that Ipsen's claimed rights to co-promote abaloparatide in France and to a license from us with respect to Japan have permanently expired, and that Ipsen has breached the License Agreement by, among other things, allowing certain patents to expire and by purporting to license to a third party certain manufacturing and other rights that we contend Ipsen exclusively licensed to us. We are seeking dismissal of Ipsen's claims, as well as declaratory relief, compliance with the License Agreement, and other damages, costs and fees to be determined by the Arbitral Tribunal.

In February 2017, Ipsen submitted a Reply denying our counterclaims and alleging that we are precluded from asserting them. Following a preliminary hearing before the Arbitral Tribunal to determine certain jurisdictional and contractual defenses asserted by Ipsen in its Reply, on July 17, 2017, the Arbitral Tribunal issued a decision finding it has jurisdiction to decide our counterclaims and that our counterclaims are not contractually barred.

On July 31, 2017, Ipsen submitted its Statement of Claim to the Arbitral Tribunal and on September 14, 2017 Radius submitted its Statement of Defense and Counterclaims. Subsequently, on October 20, 2017, Ipsen submitted its Reply and Statement of Defense to Radius's Counterclaims and on November 10, 2017, Radius submitted its Rejoinder on Claims and Reply on Counterclaims. Ipsen submitted a Rejoinder on Counterclaims on November 24, 2017. A hearing on the merits was held on December 18 and 19, 2017, and additional submissions on cost and fee allocation were made on February 9, 2018. We expect a final decision by the Arbitral Tribunal in the first half of 2018. Until we receive a decision from the Arbitral Tribunal, we cannot predict or assess the likely outcome of these proceedings.

Item 1A. Risk Factors.

Our business faces significant risks and uncertainties. Certain important factors may have a material adverse effect on our business prospects, financial condition and results of operations, and you should carefully consider them. Accordingly, in evaluating our business, we encourage you to carefully consider the discussion of risk factors in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017, which could materially affect our business, financial condition or future results, in addition to other information contained in or incorporated by reference into this Quarterly Report on Form 10-Q and our other public filings with the Securities and Exchange Commission, or the SEC.

The risk factors set forth below represent new risk factors or those containing changes, including material changes, to the similarly titled risk factors included in Item 1A of our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 1, 2018.

We may never receive approval for, or commercialize, our products outside of the United States.

In order to market any products outside of the United States, we must comply with numerous and varying regulatory requirements of other countries for marketing authorization, including those regarding safety, efficacy and manufacturing. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from that required to obtain FDA approval. The regulatory approval process in other countries may include all of the risks detailed in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017 regarding FDA approval in the United States as well as other risks. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others.

For example, in March 2018, the CHMP adopted a negative opinion on our MAA for abaloparatide-SC. While we have submitted a request for re-examination of the CHMP's opinion, we may not be successful. If our request for re-examination is not successful, we will not receive marketing authorization for abaloparatide-SC in the EU.

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

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

None.

Item 5. Other Information.

None.

Item 6. Exhibits.

A list of exhibits is set forth on the Exhibit Index immediately following the signature page of this Quarterly Report on Form 10-Q, and is incorporated herein by reference.

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.

RADIUS HEALTH, INC.

By: /s/ Jesper Hoeiland

Jesper Hoeiland

President and Chief Executive Officer
(Principal Executive Officer)

Date: May 10, 2018

By: /s/ Jose Carmona

Jose Carmona
Chief Financial Officer
(Principal Accounting and Financial Officer)

Date: May 10, 2018

EXHIBIT INDEX

Unless otherwise indicated, all references to previously filed Exhibits refer to the Company's filings with the Securities and Exchange Commission ("SEC"), under File No. 001-35726.

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed/ Furnished Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Restated Certificate of Incorporation, filed on June 11, 2014	8-K		3.1	6/13/2014	
3.2	Amended and Restated By-Laws	8-K		3.1	3/2/2018	
10.1†	Scale-Up and Commercial Supply Agreement, dated February 27, 2018, between the Company, 3M Company and 3M Innovative Properties Company					*
10.2	Second Amendment, dated April 22, 2016, to Lease, dated May 14, 2014, between the Company and BP Bay Colony LLC					*
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a)/15d-14(a)					*
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a)/15d-14(a)					*
32.1	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					**
101.INS	XBRL Instance Document					*
101.SCH	XBRL Taxonomy Extension Schema Document					*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document					*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					*
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					*

* Filed herewith.

** Furnished herewith.

† Confidential treatment has been requested with respect to certain portions of this exhibit, which portions have been filed separately with the SEC.

Exhibit 10.1

*Text Omitted and Filed Separately with the Securities and Exchange Commission
Confidential Treatment Requested Under
17 C.F.R. Sections 200.80(b)(4) and 240.24b-2

SCALE-UP AND COMMERCIAL SUPPLY AGREEMENT

BY AND AMONG

3M COMPANY AND 3M INNOVATIVE PROPERTIES COMPANY

AND

RADIUS HEALTH, INC.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

SCALE-UP AND COMMERCIAL SUPPLY AGREEMENT

THIS SCALE-UP AND COMMERCIAL SUPPLY AGREEMENT (this "**Agreement**"), effective as of February 27, 2018 ("**Effective Date**") is by and among 3M COMPANY, a Delaware company, acting through its Drug Delivery Systems Division, having a principal place of business at 3M Center, St. Paul, Minnesota 55144 ("**3M COMPANY**") and 3M INNOVATIVE PROPERTIES COMPANY, a Delaware Company, having a principal place of business at 3M Center, St. Paul Minnesota 55144 ("**3M IPC**"), (3M COMPANY and 3M IPC collectively "**3M**"), on the one hand, and Radius Health, Inc., a Delaware company having a principal place of business at 950 Winter Street, Waltham MA 02451 ("**RADIUS**"), on the other hand. 3M and RADIUS shall be referred to individually as a "**Party**" and collectively as "**Parties**" in this Agreement.

WHEREAS, 3M, through its Drug Delivery Systems Division, has experience, expertise and rights in technology relating to formulating, developing and manufacturing transdermal drug delivery systems, including its proprietary solid microstructured transdermal technology;

WHEREAS, RADIUS has experience and expertise in the research, development and commercialization of pharmaceutical products, including its proprietary compound abaloparatide;

WHEREAS, the Parties are currently conducting work to develop and commercialize Product (defined below) and Applicator (defined below) under a Development Agreement (defined below), and now wish to enter into this Agreement for manufacturing scale-up, Phase III Study (defined below) clinical supplies, and commercial supply of such Product and Applicator;

WHEREAS, 3M is willing to scale-up and manufacture Phase III Study clinical supplies and commercial supply of Product and Applicator subject to the terms of this Agreement; and

WHEREAS, 3M plans to use CMOs (defined below) for the manufacture of Product and Applicator and, at this time, 3M plans to use Patheon as the Product CMO and Freudenberg Medical as the Applicator CMO.

NOW, THEREFORE, in consideration of the foregoing premises, which are made a part of this Agreement, and the mutual promises, undertakings, terms, conditions and covenants set forth in this Agreement, the Parties agree as follows:

1. DEFINITIONS

1.1 "**3M Arising IP**" means all Inventions and Intellectual Property Rights, regardless of the identity of the Inventor or Inventors, that arise from activities under this Agreement or the Development Agreement and are (A) directed to transdermal, intradermal, or microneedle delivery technology, including, without limitation, microneedle devices, patches, Patch, components, arrays, applicators, Applicator, manufacturing, coatings, formulations useful with any of the foregoing, packaging for any of the foregoing, or methods of making or

using any of the foregoing, or (B) improvements of 3M Background IP, but in each case ((A)-(B)), excluding (i) 3M Background IP, (ii) RADIUS Background IP, (iii) RADIUS Arising IP, or (iv) Joint Arising IP.

1.2 "**3M Background IP**" means all Intellectual Property Rights owned or Controlled by 3M or its Affiliates (A) as of the Effective Date or (B) during the Term that arise outside of the activities conducted under this Agreement or the Development Agreement.

1.3 "**Affiliate**" means any company, firm or other entity that, now or in the future: (A) controls or comes to control, or (B) is or becomes under common control with or controlled by the relevant entity by ownership, direct or indirect, provided that (C) such company, firm, or other entity is only an Affiliate for as long as (A) or (B) applies. For purposes of this definition "control" shall mean the ownership of at least fifty percent (50%) of the shares of voting share capital of an entity or any other comparable equity or ownership interest. For the purpose of this Agreement, the terms "3M" and "RADIUS" shall include each Affiliate of the respective Party.

1.4 "**Annual Net Sales**" means Net Sales recorded in a given Calendar Year.

1.5 "**Applicable Law**" means all local, state, national, and international statutes, rulings, regulations, ordinances, and governmental directives, including, without limitation, those pertaining to regulation of drugs (e.g., FDCA), anti-bribery (e.g., U.S. Foreign Corrupt Practices Act, U.K. Bribery Act), money laundering, competition, regulation of trade, the environment, transportation, safety, health, and employment that apply to each Party, either Party's business, and the Product, Applicator and/or services to which this Agreement relate.

1.6 "**Applicator**" means 3M's proprietary device that is used for the application of the Product for patient use.

1.7 "**Batch Documentation**" means a complete copy of the approved executed Batch Record, master Batch Record, release testing results, Certificate of Analysis for Product or Applicator, as applicable, and Certificate of Compliance for Product and Applicator, as applicable.

1.8 "**Batch Record**" means a manufacturing record for a single cycle of Manufacture generated by 3M and/or the CMO concurrently with the production of a specific batch such that successive steps in such processes are documented.

1.9 "**Business Day**" means a day other than (a) a Saturday or a Sunday or (b) a bank or other public holiday in St. Paul, Minnesota or Boston, Massachusetts.

1.10 "**Calendar Year**" means each successive period of twelve (12) months commencing on January 1 and ending on December 31.

1.11 "**Certificate of Analysis**" means a document that is signed by 3M's and/or the CMO's authorized quality representative describing Specifications for, test methods applied to, and a certification of cGMP compliance for a batch of Product or Applicator, as applicable, and the results of testing.

1.12 "**Certificate of Compliance**" means a document that is signed by 3M's and/or the CMO authorized quality representative certifying that a particular batch of Product or Applicator, as applicable, was Manufactured in accordance with cGMP (if applicable), all other Applicable Law, and the Specifications.

1.13 "**cGMP**" means current good manufacturing practices, including the regulations promulgated by the FDA under the FDCA, 21 C.F.R. Part 210 et seq., as amended from time to time, applicable guidance documents issued by the FDA, EC Directive 2003/94/EC and EMA guidance documents, applicable documents developed by the International Conference on Harmonization (ICH) to the extent that they are applicable to Product or Applicator, as applicable, and the Parties hereunder, and comparable laws or regulations applicable to the manufacture and testing of pharmaceutical materials under Applicable Laws.

1.14 "**CMC**" means Chemistry, Manufacture and Controls.

1.15 "**CMOs**" means the third-party contract manufacturer that will conduct the [*] and packaging operations for Product ("**Product CMO**") and the third-party contract manufacturer that will manufacture the Applicator ("**Applicator CMO**"), as applicable. "**CMO**" means either the Product CMO or Applicator CMO, as applicable.

1.16 "**Commercialize**" or "**Commercialization**" means any and all activities directed to marketing, promoting, distributing, offering for sale, selling, importing and exporting the Product or Applicator.

1.17 "**Commercially Reasonable Efforts**" means, with respect to a Party, the efforts and resources typically used by such Party to perform the obligation at issue, which efforts will not be less than those efforts made with respect to other products at a similar stage of development or in a similar stage of product life, with similar developmental risk profiles, of similar market and commercial potential, taking into account the proprietary position of the products, the regulatory structure involved, Regulatory Authority-approved labeling, product profile, the profitability of the applicable products, issues of safety and efficacy, the likely timing of the product's entry into the market, the likelihood of receiving Regulatory Approval, and other relevant scientific, technical and commercial factors.

1.18 "**Compound**" means abaloparatide drug substance.

1.19 "**Confidential Information**" means all technical and business information, including but not limited to Regulatory Filings, know-how, formulations, components, specifications,

manufacturing and testing information, clinical data, Compound, Product, Patch, the Applicator, business plans, marketing plans, financial information, pricing information and studies, unpublished patent information, and relevant clinical and regulatory programs, disclosed by one Party to the other under this Agreement (or as previously provided under confidentiality obligations in any previous agreements between the Parties pertaining to Product, such prior confidentiality agreements between the Parties to remain fully in effect) or produced during performance of the work hereunder, stamped "Confidential" and all unlabeled information which by its nature is normally and reasonably considered confidential which either Party provides to the other hereunder.

1.20 "**Control**" or "**Controlled**" means, with respect to any Intellectual Property Rights that a specified Party (or both Parties, as the case may be) or its Affiliates has the right to make the assignments or to grant the licenses, sublicenses or other rights to such Intellectual Property Rights as provided for in this Agreement, in each case without violating the terms of any agreement with any Third Party in existence as of the time such Party would be required to grant such license, sublicense or other right.

1.21 "**Cost of Goods Sold**" means 3M's actual costs for overhead, labor, raw material, and/or component costs directly related to the Manufacture of Product or Applicator, as applicable, calculated in accordance with 3M's internal accounting policies and principles, and the cost of services supplied to 3M by Third Parties which are directly related to the Manufacture of Product or Applicator, as applicable. Overhead costs are to be allocated to production using an appropriate key, such as space occupied, headcount, or another activity-based method, in a manner consistent with 3M's internal accounting policies and principles. Allocable overhead shall not include any [*]. 3M's Cost of Goods Sold shall be determined and allocated to the Product or Applicator, as applicable, in accordance with GAAP, consistently applied.

1.22 "**Develop**" and "**Development**" means any and all clinical drug development activities conducted before or after obtaining Regulatory Approval that are reasonably related to or leading to the development, preparation, and submission of data and information to a Regulatory Authority for the purpose of obtaining, supporting or expanding Regulatory Approval, including all activities related to pharmacokinetic profiling, design and conduct of clinical studies, regulatory affairs, statistical analysis, report writing, and regulatory filing creation and submission (including the services of outside advisors and consultants in connection therewith).

1.23 "**Development Agreement**" means the Development and Clinical Supplies Agreement dated June 19, 2009, including any duly executed amendment or extensions thereto.

1.24 "**DMF**" means any drug master file filed with the FDA, and any equivalent filing in other countries or regulatory jurisdictions, or any other comparable mechanism for achieving the purposes of a DMF in any jurisdiction where there is no DMF-equivalent.

1.25 "**FDCA**" means the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. §§301 et seq., as amended from time to time.

1.26 "**Ex-U.S. Territory**" means all countries in the world excluding the U.S.

1.27 "**First Commercial Sale**" means, with respect to a country, the first sale of Product to a Third Party by or on behalf of RADIUS or its Affiliates or (sub)licensees within such country, after all Regulatory Approvals and any pricing or reimbursement approvals, if necessary, have been obtained in such country.

1.28 "**GAAP**" means generally accepted accounting principles in the U.S., consistently applied throughout the specified period.

1.29 "[*]" means, with respect to Product or Applicator, as applicable, the sum of the supply prices for Product or Applicator, as applicable, paid in a given period (collectively, "**3M Sales**") [*].

1.30 "**Intellectual Property Rights**" means all Patents, copyrights, trade secrets, Know-How, design rights, database rights, domain name rights and any other intellectual property rights (registered or unregistered) throughout the world.

1.31 "**Invention**" means any invention, discovery, development, art, machine, manufacture, process, design, composition of matter, method of use, method of manufacture, or any new and useful improvement, modification or enhancement thereof, whether or not patentable or copyrightable, together with all associated Intellectual Property Rights.

1.32 "**Inventor**" or "**Inventors**" mean the inventor, inventors, author or authors, under the applicable laws of the United States, of Inventions.

1.33 "**Joint Arising IP**" means all Inventions and Intellectual Property Rights, regardless of the identity of the Inventor or Inventors, that (A) is directed to the combination of (i) the Compound and (ii) transdermal, intradermal, or microneedle delivery technology, including without limitation microneedle devices, patches, Patch, components, arrays, applicators, Applicator, manufacturing, coatings, formulations useful with any of the foregoing, packaging for any of the foregoing, and methods of making or using any of the foregoing, or (B) arise from activities under this Agreement or the Development Agreement and having both 3M and RADIUS Inventors, in each case ((A)-(B)), excluding (a) 3M Background IP, (b) RADIUS Background IP, (c) RADIUS Arising IP, and (d) 3M Arising IP. By way of example only, Joint Arising IP include Inventions directed to (1) the combination of the Compound and the Patch, (2) a method of using a formulated Patch containing the Compound, and (3) a method of using a coated Patch with the Compound.

1.34 "**Know-How**" means all proprietary technical information, including inventions, discoveries, trade secrets, specifications, instructions, processes, formulae, methods of

synthesis, compound library designs, methods, protocols, expertise and other technology applicable to formulations, compositions or products, or to their Manufacture, development, registration, use or marketing, or to methods of assaying or testing them or processes for their Manufacture, formulations containing them or compositions incorporating or comprising them, and including all biological, chemical, pharmacological, biochemical, toxicological, pharmaceutical, physical and analytical, safety, quality control, Manufacturing, preclinical and clinical data, instructions, processes, formula, and expertise that, in each case, is not in the public domain.

1.35 "**Latent Defect**" means a defect caused by an act or omission of 3M or a CMO that causes a Product or Applicator to fail to conform to the warranty provided by 3M in Section 13.2, which is not discoverable upon physical inspection using Commercially Reasonable Efforts at the time of receipt by RADIUS or its Affiliates or (sub)licensees, but is discovered at a later time.

1.36 "**Lot**" means the total units of Product or Applicator Manufactured by or on behalf of 3M constituting the output from a particular formulation batch, or other total number of units of Product or Applicator, as established by confirmation of the manufacturing process. The Lot is currently estimated to be [*] units for Product. The Lot is currently estimated to be [*] units for Applicator.

1.37 "**MAF**" means any device master file filed with the FDA, and any equivalent filing in other countries or regulatory jurisdictions, or any other comparable mechanism for achieving the purposes of an MAF in any jurisdiction where there is no MAF-equivalent.

1.38 "**Manufacture**" means, with respect to the Product or Applicator or component thereof, those manufacturing-related activities that support the research, development, seeking and obtaining of Regulatory Approvals, and commercialization of such Product or Applicator, including manufacturing process development and scale-up, validation, qualification and audit of clinical and commercial manufacturing facilities, bulk production and fill/finish work, related quality assurance technical support activities and CMC activities, and including, in the case of commercial supply of such Product or Applicator, the synthesis, manufacturing, processing, formulating, packaging, labeling, holding, quality control testing and release of such Product or Applicator. "**Manufacturing**" has a correlative meaning.

1.39 "**Marketing Authorization Application**" or "**MAA**" means any application for Regulatory Approval in a country, territory or possession.

1.40 "**Net Sales**" with respect to Product following its Regulatory Approval, the gross amounts invoiced for sales of such Product by RADIUS, its Affiliates or (sub)licensee(s) (the "**Selling Party**") to Third Parties in an arms' length transaction, less to the extent specifically and solely allocated to the sale of such Product and actually taken, paid, accrued, allowed, included, or allocated based on good faith estimate consistent with

RADIUS' or its Affiliates' or (sub)licensees' practice, in the gross sales prices with respect to such sales (and consistently applied as set forth below):

A.non-recoverable sales taxes, excise taxes, use taxes, VAT and duties paid by the Selling Party in relation to Product and any other equivalent governmental charges imposed upon the importation, use or sale of Product;

B.reasonable credits and allowances (actually allowed or paid) for defective or returned Product, including allowances for spoiled, damaged, outdated, rejected, or returned Product;

C.governmental and other rebates, refunds, and chargebacks (or equivalents thereof) granted to managed health care organizations, pharmacy benefit managers (or equivalents thereof), federal, state, provincial, local and other governments, their agencies and purchasers and reimbursers or to trade customers, in each case with respect to such Product;

D.reasonable fees paid to wholesalers, distributors, selling agents (excluding any sales representatives of a Selling Party), group purchasing organizations, third party payors, other contractees and managed care entities, in each case with respect to such Product;

E.bad debt, freight or other transportation charges, insurance charges, additional special packaging charges;

F.retroactive price reductions actually granted to the Third Party applicable to sales of such Product;

G.trade, cash, prompt payment and/or quantity discounts, actually allowed and taken directly by the Third Party, and mandated discounts; and

H.any other Net Sales reductions that are in accordance with GAAP, as consistently applied by RADIUS.

For the further avoidance of doubt, if a single item falls into more than one of the categories set forth in clauses (A) – (H) above, such item may not be deducted more than once.

Net Sales by RADIUS shall be determined from books and records maintained in accordance with GAAP, consistently applied.

Sales of Product between or among more than one Selling Party shall be excluded from the computation of Net Sales and no payments shall be payable on such sales except where such Selling Party is an end user. For the avoidance of doubt, sales of a Product for use in conducting clinical trials of such Product in a country in order to obtain the Regulatory Approval of such Product in such country shall be excluded from the

computation of Net Sales for all purposes and no payments shall be payable on such sales. Also, notwithstanding anything to the contrary above, sales of a Product for any compassionate use or named patient sales or sample Product provided free of charge to physicians in the course of promoting Product, shall be excluded from the computation of Net Sales and no payments shall be payable on such sales or sampling activities.

1.41 "**Patch**" means 3M's proprietary microstructured solid transdermal system patch.

1.42 "**Patent**" means (A) any patent application of any kind, including any provisional patent application, utility patent application, and design patent application; (B) any patent application claiming priority from such patent application or provisional application, including any divisional, continuation, continuation-in-part, provisional, converted provisional, and continued prosecution application; (C) any patent that has issued or in the future issues from any of the foregoing patent applications ((A) and (B)), including any utility model, petty patent, design patent and certificate of invention; (D) any extension or restoration by existing or future extension or restoration mechanisms, including any revalidation, reissue, re-examination and extension (including any supplementary protection certificate and the like) of any of the foregoing patents or patent applications ((A), (B) and (C)); and (E) any similar rights, including so-called pipeline protection, or any importation, revalidation, confirmation or introduction patent or registration patent or patent of additions to any such foregoing patent application or patent.

1.43 "**Phase I Study**" means a human clinical study in any country that would satisfy the requirements of 21 C.F.R. § 312.21(a) or its foreign equivalents.

1.44 "**Phase II Study**" means a human clinical study in any country that would satisfy the requirements of 21 C.F.R. § 312.21(b) or its foreign equivalents.

1.45 "**Phase III Study**" means a human clinical study in any country that would satisfy the requirements of 21 C.F.R. § 312.21(c) or its foreign equivalents.

1.46 "**Product**" means the Compound-coated Patch developed under the Development Agreement and/or this Agreement.

1.47 "**PTH**" means synthetic, natural or recombinant parathyroid hormone and/or any of its active fragments, analogues, derivatives and/or other variants.

1.48 "**PTH Related Protein**" means synthetic, natural or recombinant parathyroid hormone-related protein and/or any of its active fragments, analogues, derivatives and/or other variants.

1.49 "**Quality Agreement**" means one or more agreement(s) among the Parties and a CMO for the Product or Applicator, that details specific quality and regulatory activities and the level of responsibility agreed to among the applicable parties to such agreement.

1.50 "**RADIUS Arising IP**" means all Inventions and Intellectual Property Rights, regardless of the identity of the Inventor or Inventors, that arise from activities under this Agreement or the Development Agreement and that are (A) directed to the Compound, including composition of matter, (but, for clarity, excluding any formulations specifically including Compound that are useful with transdermal, intradermal, or microneedle delivery technology, including, without limitation, microneedle devices, patches, Patch, components, arrays, applicators, Applicator, manufacturing, and coatings—which formulations constitute Joint Arising IP), methods of making the Compound or method of using the Compound or (B) an improvement of RADIUS Background IP, but in each case ((A)-(B)), excluding (i) RADIUS Background IP, (ii) 3M Background IP, (iii) 3M Arising IP, or (iv) Joint Arising IP.

1.51 "**RADIUS Background IP**" means all Intellectual Property Rights owned or Controlled by RADIUS or its Affiliates (A) as of the Effective Date or (B) during the Term that arises outside of the activities conducted under this Agreement or the Development Agreement.

1.52 "**Regulatory Approval**" means any approvals, permits, product and/or establishment licenses, registrations or authorizations, including approvals pursuant the Regulatory Filings of any Regulatory Authorities that are necessary or advisable in connection with the development, Manufacture, testing, use, storage, transport, promotion, marketing, distribution or sale of Product or Applicator in the Territory.

1.53 "**Regulatory Authority**" means the U.S. Food and Drug Administration ("**FDA**") or any other agency having the authority to approve and/or control the right to Manufacture, import, conduct clinical testing, market or sell Product or Applicator in the Territory.

1.54 "**Regulatory Filing**" means any submission made to a Regulatory Authority to seek regulatory approval with respect to a Product or Applicator, any submission to a regulatory advisory board with respect to the Product or Applicator, any New Drug Application ("**NDA**"), and any supplement or amendment to any of the foregoing, and any applications for pricing or reimbursement approvals for the Product or Applicator. For the avoidance of doubt, Regulatory Filing does not include 3M's DMFs or MAFs.

1.55 "**Rolling Estimates**" means RADIUS' monthly rolling forecast for Product or Applicator showing the estimated requirements for Product or Applicator for the succeeding [*] months.

1.56 "**Scale-up Workplan**" means the reasonably detailed definition of the work to be performed, timeline, assumptions and deliverables, and budget in connection with the scale-up of Phase III Study clinical supply and commercial supply Manufacturing. The Scale-up Workplan is attached as Exhibit A.

1.57 "**Specification(s)**" means, on a country-by-country basis, the written procedures, requirements, standards, quality control testing and other data as set forth in the

applicable Regulatory Approval, along with any valid amendments or modifications thereto, and any other written specifications mutually agreed upon by the Parties.

1.58 "**Supply Failure**" means, with respect to the Product or Applicator, 3M's failure to timely deliver to RADIUS in accordance with Purchase Orders received in compliance with Section 9, for the Firm Commitment for such Product or Applicator, as applicable, either (A) at least [*] of the quantity of such Product or Applicator, as applicable, ordered for more than [*]; or (B) at least [*] of the quantity of such Product or Applicator, as applicable, ordered for more than [*], in each event if such failure is due to 3M or CMO for any reason.

1.59 "**Territory**" means all of the countries and territories in the world.

1.60 "**Test Methods**" means those tests described in the Regulatory Approvals or Specifications. All Test Methods and any changes thereto agreed to by the Parties from time to time shall be approved by both Parties and reduced to writing, signed and dated to be effective.

1.61 "**Third Party**" means any person or entity other than a Party or their respective Affiliates.

1.62 "**United States**" or "**U.S.**" means the United States of America and its districts, territories and possessions.

1.63 The remaining capitalized terms used in this Agreement shall have the meanings set forth in the following Sections of this Agreement:

Term	Section Reference
"**3M**"	Preamble
"**3M COMPANY**"	Preamble
"**3M Facility**"	5.1
"**3M IPC**"	Preamble
"**3M Sales**"	1.29
"**AEs**"	4.4D
"**Agreement**"	Preamble
"**Alliance Manager**"	3.1
"**Applicator CMO**"	1.15
"**Bankruptcy Code**"	6.3
"**CMO**"	1.15
"**CMO Startup Fees**"	5.1
"**Competitive Infringement**"	12.4E
"**Development Agreement**"	1.23
"**DQSA**"	4.4F
"**Effective Date**"	Preamble

Term	Section Reference
"**Expected Capacity**"	5.2
"**FDA**"	1.53
"**Firm Commitment**"	9.1
"**Force Majeure Event**"	17.1
"**Initial Term**"	6.1
"**JMC**" or "**Joint Manufacturing Committee**"	3.3A
"**JSC**" or "**Joint Steering Committee**"	3.2A
"**Launch Period**"	4.3
"**NDA**"	1.54
"**Party**" and "**Parties**"	Preamble
"**Patent Claim**"	12.5A
"**Product CMO**"	1.15
"**Purchase Order**"	9.2
"**RADIUS**"	Preamble
"**Recall Expenses**"	4.4E(ii)
"**Reimbursable Costs**"	5.3
"**Representatives**"	11.2
"**Selling Party**"	1.40
"**Technology Transfer**"	6.8A
"**Technology Transfer Team**"	6.8C
"**Term**"	6.1

2. SCALE-UP WORKPLAN

2.1 The Parties acknowledge that an additional workplan beyond that being conducted under the Development Agreement is required to scale-up Manufacturing capability. 3M and RADIUS agree to develop and execute the Scale-up Workplan in accordance with the terms and conditions of this Agreement. The Parties, through the JMC, may amend the Scale-up Workplan from time to time. For clarity, the Development Agreement will survive and continue in full force and effect for purposes of 3M providing clinical supply and further development by the Parties outside the scope of the Scale-up Workplan.

3. GOVERNANCE

3.1 Alliance Managers - Promptly after the Effective Date, each Party shall appoint an appropriately qualified individual to serve as an alliance manager under this Agreement (each an "**Alliance Manager**"). Such persons shall endeavor to assure clear and responsive communication between the Parties and the effective exchange of information and will serve as the primary point of contact for any matters arising under this Agreement. The Alliance Managers shall ensure each Party's awareness and compliance of the governance procedures under this Agreement. The Alliance Managers shall: (A) attend meetings of both the JSC and JMC (both as defined below); (B) be responsible on

an alternating basis for (i) scheduling JSC and JMC meetings, (ii) issuing agendas, which shall include agenda items requested by the Parties for the JSC and JMC, (iii) issuing draft meeting minutes for the JSC and JMC, (iv) obtaining approval and issuance of meeting minutes for the JSC and JMC; and (C) have no voting power on either the JSC or JMC.

3.2 Joint Steering Committee.

A. Formation; Composition – Within ten (10) days after the Effective Date, the Parties shall form a joint steering committee consisting of an equal number of senior commercial and scientific executive representatives from each Party, not to exceed two (2) representatives from each Party (the "**JSC**" or "**Joint Steering Committee**") to oversee the overall progress, timeline, costs and expenses, and results of the Scale-up Workplan and Manufacture of the Product and Applicator. The JSC shall include the Chief Executive Officer of RADIUS and the head of the transdermal business unit of 3M. Each Party shall determine its second (2nd) representative to the JSC at its sole discretion and may change such representative to the JSC, at its sole discretion, upon written notice to the other Party, so long as such representative is a senior commercial or scientific executive. The Parties may also, by mutual agreement, increase or decrease the number of members serving on the JSC; provided that the number of members representing each party remains equal.

B. Responsibilities of the JSC - The principal purpose of the JSC shall be to provide a forum for open communication and coordination between senior executives of the Parties with respect to the overall progress and results of the Scale-up Workplan and commercial Manufacture of the Product and Applicator. The JSC shall provide advice, guidance, direction and other recommendations to the JMC. Subject to the express rights of the Parties as set forth herein, the role of the JSC is to:

(i) review and discuss the overall progress, timeline, costs and expenses, and results of the program;

(ii) endorse, modify or reject JMC recommendations, and provide guidance when requested by the JMC thereto;

(iii) attempt to resolve any disputes (if any) presented to it by the JMC; and

(iv) perform such other activities as the Parties agree in writing; however, notwithstanding anything to the contrary set forth in this Section 3.2B or otherwise in this Agreement, in no event may the Parties designate to the JSC any dispute relating to compliance with any term or condition of this Agreement, interpretation of any provision of this Agreement or the Parties' respective rights and responsibilities under this Agreement, each

of which shall be handled solely in accordance with Section 17.7 and shall not be within the authority of the JSC.

C.Meetings - The JSC shall meet at least two (2) times per year, spaced at regular intervals unless the Parties mutually agree in writing to a different frequency for such meetings. The first meeting of the JSC shall be within sixty (60) days of the Effective Date, unless otherwise mutually agreed by the parties. No later than ten (10) Business Days prior to any meeting of the JSC, the Alliance Managers shall prepare and circulate an agenda for such meeting which shall include additional topics proposed by the Parties, either prior to or in the course of such meeting. After the initial meeting, the JSC may meet in person, or by agreement of both Parties, by videoconference or by teleconference, provided that the Parties shall meet in person at least once per year. Each Party shall bear the expense of its respective JSC members' participation in JSC meetings. The Alliance Managers shall prepare reasonably detailed written minutes of all JSC meetings that reflect, without limitation, material decisions made and action items identified at such meetings. The Alliance Managers shall send draft meeting minutes to each member of the JSC for review and approval within ten (10) Business Days after each JSC meeting. Such minutes shall be deemed approved unless one or more members of the JSC object to the accuracy of such minutes within ten (10) Business Days of receipt.

D.Decision-Making – The JSC shall [*] in the presence of a quorum. The quorum for JSC meetings shall be four (4) members, provided there are at least two (2) members from each of RADIUS and 3M present. The JSC will render decisions [*]. The members of the JSC shall act in good faith to cooperate with one another and to reach agreement with respect to issues to be decided by the JSC. Disagreements among the JSC will be resolved via good-faith discussions; provided, that in the event of a disagreement that cannot be resolved within forty-five (45) days after the date on which the disagreement arose, then either Party may submit such issue for resolution in accordance with Section 17.7. The Parties acknowledge and agree that the deliberations and decision-making of the JSC shall be in accordance with the following operating principles: (i) decisions should be made in a prompt manner; and (ii) the Parties' mutual objective is to maximize the commercial success of the Product, consistent with sound and ethical business and scientific practices.

E.JSC Authority - The JSC shall not have any power to amend, modify, or waive compliance with this Agreement. Each Party shall retain the rights, powers and discretion granted to it under this Agreement and no such rights, powers, or discretion shall be delegated to or vested in the JSC unless such delegation or vesting of rights is expressly provided for in this Agreement or the Parties expressly so agree in writing.

F. Discontinuation of JSC - The JSC shall continue to exist until the later of: (i) the Parties' mutual agreement to disband the JSC; and (ii) six (6) months after the commercial launch of Product in the U.S.

3.3 Joint Manufacturing Committee.

A. Formation; Composition - Within thirty (30) days after the Effective Date, the Parties shall form a committee consisting of an equal number of representatives from each Party, not to exceed three (3) representatives from each Party (the "**JMC**" or "**Joint Manufacturing Committee**") to oversee the day-to-day conduct of the Scale-up Workplan and Manufacture of the Product and Applicator. No later than ten (10) Business Days prior to any meeting of the JMC, the Alliance Managers shall prepare and circulate an agenda for such meeting which shall include additional topics proposed by the Parties, either prior to or in the course of such meeting. Each Party shall determine its representatives to the JMC at each Party's sole discretion and may change its representatives to the JMC, at its sole discretion, upon written notice to the other Party. All JMC representatives shall have appropriate expertise, seniority, decision-making authority, and ongoing familiarity with the obligations under this Agreement. The JMC may meet in person or by teleconference or videoconference.

B. Responsibilities of the JMC - The principal purpose of the JMC shall be to provide a forum for open communication and coordination between the Parties with respect to the Scale-up Workplan and commercial Manufacture of the Product and Applicator. The JMC shall provide advice, guidance, direction and other recommendations. Subject to the express rights of the Parties as set forth herein, the role of the JMC is to:

(i) oversee the day-to-day conduct of the activities of the Parties under this Agreement;

(ii) act as a forum for open and regular communication between the Parties regarding scale-up and Manufacturing activities;

(iii) track and keep records of costs and expenses relative to the Scale-up Workplan and associated budget;

(iv) discuss and approve 3M's quarterly rolling forecast of estimated hours for work performed pursuant to Section 7.2;

(v) discuss and approve proposed amendments to the Scale-up Workplan;

(vi) discuss and oversee the implementation of plans for the Manufacture of Product and Applicator, including the timeline therefor;

(vii)report regularly to the JSC upon the progress, timeline, costs and expenses, and results of the Scale-up Workplan and Manufacture of the Product and Applicator, and request guidance from the JSC on such matters, as appropriate;

(viii)review and discuss pricing adjustments of Product or Applicator implemented by 3M pursuant to Section 7.5 or Exhibit D and continuous improvement projects and objectives to achieve cost reductions and efficiencies in the Manufacture of Product and Applicator, including the equitable sharing of benefits from the such projects between the Parties;

(ix)attempt to resolve any issue presented to it;

(x)oversee the Technology Transfer Team (defined below in Section 6.8); and

(xi)perform such other activities as the Parties agree in writing or as directed by the JSC; however, notwithstanding anything to the contrary set forth in this Section 3.3B or otherwise in this Agreement, in no event may the Parties designate to the JMC any dispute relating to compliance with any term or condition of this Agreement, interpretation of any provision of this Agreement or the Parties' respective rights and responsibilities under this Agreement, each of which shall be handled solely in accordance with Section 17.7 and shall not be within the authority of the JMC.

C.Meetings - The JMC shall meet at least one (1) time per quarter, spaced at regular intervals unless the Parties mutually agree in writing to a different frequency for such meetings. No later than ten (10) Business Days prior to any meeting of the JMC, the Alliance Managers shall prepare and circulate an agenda for such meeting, which shall include additional topics requested by the Parties, either prior to or in the course of such meeting. The JMC may meet in person, or by agreement of both Parties, by videoconference or by teleconference. In-person JMC meetings shall be held at locations in the U.S. alternately selected by 3M and RADIUS or at any other location mutually agreed by the members of the JMC. Each Party shall bear the expense of its respective JMC members' participation in JMC meetings. Meetings of the JMC shall be effective only if at least one (1) representative of each Party is present or participating in such meeting (excluding the Alliance Managers.) The Alliance Managers shall prepare reasonably detailed written minutes of all JMC meetings that reflect, without limitation, material decisions made and action items identified at such meetings. The Alliance Managers shall send draft meeting minutes to each member of the JMC for review and approval within ten (10) Business Days after each JMC meeting. Such minutes shall be deemed approved unless one (1) or more members of the JMC object to the accuracy of such minutes within ten (10) Business Days of receipt.

D.Decision-Making - The JMC shall [*] in the presence of a quorum, and the representatives from each Party shall have, collectively, one (1) vote on behalf of that Party. For the avoidance of doubt, the Alliance Managers shall not have voting power. For each meeting of the JMC, at least one (1) representative of each Party shall constitute a quorum. If the JMC cannot [*] on an issue that comes before the JMC and over which the JMC has oversight, then either Party may submit such issue to the JSC for resolution in accordance with Section 3.2D.

E.JMC Authority - The JMC shall not have any power to amend, modify, or waive compliance with this Agreement. Each Party shall retain the rights, powers and discretion granted to it under this Agreement and no such rights, powers, or discretion shall be delegated to or vested in the JMC unless such delegation or vesting of rights is expressly provided for in this Agreement or the Parties expressly so agree in writing.

F.Discontinuation of JMC - The JMC shall continue to exist until the Parties mutually agree to disband the JMC.

4. DILIGENCE OBLIGATIONS AND REGULATORY RESPONSIBILITIES

4.1 RADIUS, itself or through its Affiliates or (sub)licensees, shall employ Commercially Reasonable Efforts to seek: (A) Regulatory Approval for Product in the United States; and (B) any additional Regulatory Approvals in other countries in the Territory as may be selected by RADIUS at RADIUS' sole option. Such efforts shall include efforts to proactively pursue Regulatory Approval as well as to respond with reasonable diligence to any requests for information or other assistance from the FDA or any other Regulatory Authority, which are necessary to obtain such approval. To the extent that any information requested by FDA or any Regulatory Authority concerning the Manufacture of Product or Applicator is in the possession of 3M and not RADIUS, RADIUS will notify 3M promptly and 3M will respond promptly and with reasonable diligence to such requests and provide other assistance on a timely basis as may be needed to assist RADIUS in obtaining or maintaining any Regulatory Approvals of the Product or Applicator. 3M's activities in supporting RADIUS to obtain Regulatory Approvals for the Product shall be [*] for Scale-up Workplan activities.

4.2 RADIUS shall at its own expense be responsible for all contact with the FDA or any Regulatory Authority concerning any Regulatory Approval for the Product. RADIUS shall ultimately bear all responsibility for any use of information provided by 3M including use in Regulatory Filings, provided that such information is accurate and complete. 3M will be responsible for all communications with the FDA or any Regulatory Authority concerning all DMFs and MAFs owned or controlled by 3M.

4.3 RADIUS shall use Commercially Reasonable Efforts to launch the Product in the U.S. within [*] (which time period shall be extended on a day-for-day basis for such time period required by RADIUS, using Commercially Reasonable Efforts to [*], provided

such [*] and subject to the timely Manufacture and delivery of Product and Applicator by 3M to RADIUS or its Affiliates or (sub)licensees (such time period, with such foregoing extensions and provisos, the "**Launch Period**"). In the event RADIUS anticipates the U.S. Product launch to be delayed beyond the Launch Period for any reason other than based on [*], the Parties shall meet to discuss the rationale for such delay. RADIUS shall [*] beyond the Launch Period that RADIUS does not launch the Product [*] and shall also [*]. RADIUS shall purchase validation batches of Product meeting 3M's Product warranty under Section 13.2 under the terms of this Agreement. Nothing set forth herein shall restrict or prohibit RADIUS from selling or distributing Product purchased by RADIUS from 3M which were produced for validation purposes provided such Product meets 3M's Product warranty under Section 13.2.

4.4 Regulatory Responsibilities.

A. Marketing Authorization Applications and Regulatory Approvals – RADIUS, itself or through its Affiliates or (sub)licensees, will be responsible for preparing and submitting all Regulatory Filings, including but not limited to providing any clinical data to be submitted in the MAAs. 3M will perform all activities to support the CMC section of the Regulatory Filings, and will submit all CMC data required for the Regulatory Filings in DMFs or MAFs. All MAAs, Regulatory Filings and Regulatory Approvals in the Territory shall be owned by RADIUS, its Affiliates or (sub)licensees, and remain with RADIUS, its Affiliates or (sub)licensees. Nothing in this Agreement should be construed as transferring ownership of MAAs, Regulatory Filings or Regulatory Approvals to 3M. All 3M DMFs and MAFs referenced in the MAAs, Regulatory Filings and Regulatory Approvals shall be owned by 3M, and nothing is this Agreement should be construed as transferring ownership of such DMFs and MAFs at any time to RADIUS, its Affiliates or (sub)licensees. 3M shall grant and hereby does grant to RADIUS an exclusive (solely as to the Product and in the case of Applicator, solely for use with Product), "Right of reference or use," as that term is defined in 21 C.F.R. § 314.3(b) (or any successor rule or analogous law recognized outside of the U.S.), with the right to grant further Rights of reference or use to its (sub)licensees and Affiliates through multiple tiers to all such DMFs and MAFs owned or controlled by 3M. The right granted in the previous sentence shall be for use with the Product, does not include any rights except as relates to the Product, and is subject to the provisions of Section 6.8 of this Agreement; for avoidance of doubt, the right granted in the previous sentence specifically excludes any right in such DMFs or MAFs with respect to or for use with anything other than Product. Other than as provided above, 3M specifically reserves all other rights in all DMFs and MAFs for all other purposes, including without limitation the "Right of reference or use" for any product. 3M will provide to RADIUS, its Affiliates or its (sub)licensees and to any specified Regulatory Authority a letter of authorization, or other such executed instrument as may be necessary under, or as RADIUS, its Affiliates or its (sub)licensees may

reasonably request, to effectuate the rights of reference or use to all such DMFs and MAFs, contemplated in this Section 4.4A in order to obtain, maintain support of all MAAs, Regulatory Filings and Regulatory Approvals for Product in the Territory. 3M shall provide or cause to be provided CMC information required for RADIUS', its Affiliates' or its (sub)licensees' Regulatory Filing as required by the relevant Regulatory Authority in markets or territories where DMF/MAF is not available for registration. For clarity, notwithstanding anything in this Agreement to the contrary, during the Term, 3M may redact from documents provided or made available to RADIUS, its Affiliates or its (sub)licensees, and otherwise decline to disclose or provide RADIUS, its Affiliates or its (sub)licensees access to, all confidential CMC-related data and information for Product proprietary manufacturing processes relating to such confidential CMC-related data.

B.Maintaining Regulatory Approval for Product– Once Regulatory Approval for the Product and Applicator is obtained from a Regulatory Authority, RADIUS, itself or through its Affiliates or (sub)licensees, shall have responsibility to maintain such Regulatory Approval for the Product and Applicator with all applicable Regulatory Authority(ies) in the Territory in which the Product and Applicator are sold. RADIUS shall be responsible for all preclinical, clinical, CMC (referencing information included in 3M's DMFs and MAFs) and quality sections of the Regulatory Approvals for the Product and Applicator, as well as all labeling issues with Regulatory Authorities (such as the FDA) and for all dealings with Regulatory Authorities on advertising and marketing matters and all clinical studies. RADIUS shall file any and all reports required for Product and Applicator by Regulatory Authorities in the Territory.

C.Maintaining DMFs and MAFs – 3M shall have responsibility to maintain the DMFs and MAFs referenced in any Regulatory Filings for Product and Applicator with all applicable Regulatory Authority(ies) in the Territory. 3M shall promptly (and in any event within thirty (30) days) notify RADIUS in advance of any material change in any such DMF or MAF.

D.Adverse Drug Experience Reports - RADIUS shall be responsible for filing with applicable Regulatory Authorities any adverse event reports ("**AEs**") which it receives directly from Third Parties or from 3M relating to Product or Applicator. If 3M or a CMO receives an adverse event report for the Product or Applicator, 3M shall provide such report to RADIUS as soon as practicable, but no later than [*] after such report is received by 3M's or a CMO's (as applicable) Quality or Regulatory Department. Upon request by RADIUS, 3M and RADIUS will negotiate in good faith and enter into a pharmacovigilance agreement for the Product and Applicator, including any safety data relating to the Patch and Applicator.

E.Product Recall and/or Field Alert – In the event that either Party determines an event, incident or circumstance has occurred which may result in the need for a "recall", "market withdrawal" or "field alert" of Product or Applicator or any Lot(s) thereof, as such terms are defined in the United States Code of Federal Regulations 21 CFR § 7.3 ("Recall") and 21 CFR§ 314 ("Field Alert"), or other Applicable Law or regulation of a country, such Party shall advise and consult with the other Party regarding such event as set forth below.

(i)Recall Procedure - RADIUS shall be the Party primarily responsible for administrating any recall of Product or Applicator. If RADIUS believes 3M or a CMO is responsible for the recall of Product or Applicator, RADIUS shall promptly notify 3M in writing to that effect and consult with 3M regarding the strategy for any recall. Following notification, 3M shall respond to RADIUS and make available its representatives from business, regulatory, quality assurance and legal functions (and any others deemed necessary by a Party) as soon as possible to discuss with such representatives from RADIUS whether or not to conduct a recall of Product, and, if so, the breadth, extent and level of customer to which the recall shall reach, what strategies and notifications should be used and the responsibility for the Recall Expenses (defined below). RADIUS shall have the final authority to decide whether a recall of such Product or Applicator shall be made and to what extent and level it shall be conducted. For all recalls other than those falling within Section [*] shall be responsible for all Recall Expenses. Any disagreement on the amount of and responsibility for Recall Expenses that cannot be resolved by the Parties shall be resolved pursuant to Section 17.7. In the event [*] conducts a recall [*] without [*] will not be responsible for any costs or expenses incurred by [*], except if it is determined under Section 17.7 that (a) [*] was justified in instituting such recall and reasonably believed following the above procedures would delay instituting such recall and thereby possibly cause patient harm; and (b) [*] was not [*] not [*].

(ii)[*] Recall - To the extent and only to the extent that a recall of Product or Applicator is mandated by the relevant Regulatory Authorities and is shown to be due to [*], and where [*] described in Section 4.4E(i), [*] shall bear all reasonable out-of-pocket costs and expenses of such recall, including and limited to, expenses and other costs or obligations to Third Parties (for example, costs imposed by distributors, but not including payments for [*]), the cost and expense of notifying customers, the cost and expense associated with shipment of such recalled Product or Applicator, the cost and expense of the Compound (if recall is related to Product, or if recall is related to Applicator where the Applicator and Product are packaged together), and the cost and expense of replacing and destroying such Product or Applicator which is removed from the market,

if necessary (the "**Recall Expenses**"). If [*] claims that [*] is responsible for the recall, [*] will provide all relevant information, data and agency correspondence to [*].

F.RADIUS shall have the responsibility to comply with the Drug Quality and Security Act ("**DQSA**") requirements as required for Product and Applicator distribution. 3M and the CMOs shall meet their respective obligations with respect to DQSA requirements as required for Product and Applicator Manufacture, to be set forth in a Quality Agreement.

5. CAPITAL EQUIPMENT AND FACILITY MODIFICATION

5.1 3M shall procure and install all commercial manufacturing equipment required to Manufacture commercial supply of Product, at 3M's Woodlands site ("**3M Facility**") and at the Product CMO site according to the Scale-up Workplan. RADIUS acknowledges that [*], which [*] shall use Commercially Reasonable Efforts to [*]; provided, however, that [*] shall provide periodic updates to RADIUS regarding the progress and completion of [*], and in the event [*] despite using such Commercially Reasonable Efforts, then [*] may elect, at its sole cost and discretion, to order the first [*], which will include an [*], and [*] for Manufacture of the Product at the Product CMO. [*] shall reimburse [*] for [*] documented costs (without markup) for [*] for the Product at the Product CMO, and for any [*] required for establishing [*] at the Product CMO ("**CMO Startup Fees**"). [*] shall invoice [*] for such CMO Startup Fees as [*]. An initial, non-binding estimate of the schedule and amounts of CMO Startup Fees is attached as Exhibit B. The Parties shall discuss and agree upon any amounts in excess of the CMO Startup Fees set forth in Exhibit B prior to the commencement of any activities expected to result in excess amounts. 3M shall not be compelled, nor shall 3M compel the CMO to undertake activities that would result in excess amounts unless agreed between the Parties. [*] shall make payments to [*] in accordance with Section 7.2 of this Agreement.

5.2 Following the First Commercial Sale of the Product, [*] shall also fund any additional [*], for Product as required to meet RADIUS' commercial requirements for Product. RADIUS shall provide at least [*] written notice to 3M to [*], prior to requiring [*] units ("**Expected Capacity**") of Product per [*]. 3M shall use Commercially Reasonable Efforts to bring any such additional [*] into service for commercial Manufacture of Product within no more than [*] from the date of RADIUS' written notice, provided that 3M shall use Commercially Reasonable Efforts to seek to shorten such time period by seeking to shorten the delivery and validation time periods for such additional [*].

5.3 All commercial manufacturing capital equipment required to Manufacture commercial supply of Product, including equipment [*], shall be retained and owned by 3M and maintained at 3M's cost, subject to the provisions of Section 6.8. During the Term of the Agreement, all Product [*] (first and additional) procured and installed pursuant this Agreement shall be [*] or its Affiliates or (sub)licensees. 3M and the Product CMO may elect to utilize the [*]. In the event that 3M or the Product CMO elects to utilize the [*],

then within thirty (30) days of such election, 3M shall provide written notice to RADIUS of such election and [*] (such costs, "**Reimbursable Costs**"), and proportional to the additional anticipated [*].

6. TERM, TERMINATION AND TECHNOLOGY TRANSFER

6.1 Term of this Agreement – The initial term of this Agreement will begin on the Effective Date and continue for five (5) years from the First Commercial Sale of Product in the Territory (the "**Initial Term**"); provided that either Party may terminate this Agreement as permitted in this Agreement. The Agreement will automatically renew for successive additional three (3) year terms (collectively with the Initial Term, the "**Term**") unless either Party notifies the other at least twenty four (24) months prior to the end of the then-current Term that it declines to extend the Term.

6.2 Either Party may terminate this Agreement in the event of a material breach of the Agreement or a Quality Agreement by the other Party that the breaching Party has failed to cure within ninety (90) days of receipt of written notice from the non-breaching Party. The ninety (90) day cure period will be extended if: (A) the default cannot be remedied in the ninety (90) days, (B) the defaulting party uses diligent efforts to remedy the default, and (C) the defaulting party is pursuing a course of action that, if successful, will effect such a remedy within a reasonable period thereafter.

6.3 If, at any time during the Term (A) a case is commenced by or against either Party under Title 11, United States Code, as amended, or analogous provisions of Applicable Law outside the United States (the "**Bankruptcy Code**") and, in the event of an involuntary case under the Bankruptcy Code, such case is not dismissed within sixty (60) days after the commencement thereof, (B) either Party files for or is subject to the institution of bankruptcy, liquidation or receivership proceedings (other than a case under the Bankruptcy Code), (C) either Party assigns all or a substantial portion of its assets for the benefit of creditors, (D) a receiver or custodian is appointed for either Party's business, or (E) a substantial portion of either Party's business is subject to attachment or similar process; then, in any such case ((A), (B), (C), (D) or (E)), the other Party may terminate this Agreement upon written notice to the extent permitted under Applicable Law.

6.4 Termination under this Article shall not relieve either Party of any obligation existing upon the date of termination or relieve the defaulting Party from liability for breach of this Agreement.

6.5 Termination by 3M – 3M may elect to terminate this Agreement as a whole (or with respect to (C) below, in part as to the Product and/or the Applicator or to (F) below, in part as to the Product), upon ninety (90) days' written notice to RADIUS if, in 3M's sole discretion: (A) the Product develops a clinical or commercial profile involving an unusually high number or frequency of serious AEs or other material safety issues that threaten to damage 3M's reputation and/or expose 3M to potential liability and/or fines; (B) the FDA does not approve the Product within [*] of submission of the NDA in the

U.S., which time period shall be extended on a day-for-day basis for each day (i) required by RADIUS to perform additional studies or develop or provide information required by the FDA in support of approval of the NDA provided that RADIUS promptly makes Commercially Reasonable Efforts to conduct such additional studies and provide the required additional information; (ii) that 3M delays or fails to provide information or support required for approval of the NDA; (iii) that 3M delays or fails to timely Manufacture and deliver the Product or Applicator to RADIUS or its Affiliates or (sub)licensees to the extent such delay or failure is related to non-approval of the NDA; or (iv) required by RADIUS to address any other events or circumstances outside of the reasonable control of RADIUS or its Affiliates to the extent such delay or failure is related to non-approval of the NDA; (C) after the [*] of the commercial launch of Product in the U.S., RADIUS fails to order any Product for a period of [*], which time period shall be extended on a day-for-day basis (i) for any time period required by RADIUS, using Commercially Reasonable Efforts to address any events or circumstances outside of the reasonable control of RADIUS or its Affiliates, including with respect to any safety issues, regulatory issues, clinical or marketing product holds or withdrawals, Force Majeure Event, or injunction or other operation of law; or (ii) for each day that 3M or any Product CMO delays or fails to timely Manufacture or deliver the Product or Applicator to RADIUS or its Affiliates or (sub)licensees, to fulfill an existing order; (D) a Force Majeure Event pursuant to Section 17.1 relating to non-performance by RADIUS (excluding Force Majeure Events caused by Compound shortages, for which the Parties will negotiate a remedy in good faith) continues unabated for one hundred and eighty (180) days or longer; (E) upon written notice to RADIUS if there is an assertion by a Third Party of patent infringement involving Product that threatens to seriously damage 3M's corporate reputation and/or expose 3M to large potential liability and/or fines; or (F) upon thirty (30) days' notice in the event that, despite using Commercially Reasonable Efforts, 3M fails to [*], as described in Section 5.1.

6.6 Termination by RADIUS – RADIUS may elect to terminate this Agreement, upon ninety (90) days' written notice to 3M if, in its sole discretion: (A) RADIUS, in its reasonable opinion, believes that it cannot achieve Regulatory Approval in the United States; (B) the FDA does not approve the Product within [*] of submission of the NDA in the U.S.; (C) RADIUS, in its reasonable opinion, believes that clinical, technical or commercial reasons impact the viability of the Product; (D) RADIUS decides to cease development or commercialization of Product; (E) a Force Majeure Event pursuant to Section 17.1 that continues unabated for one hundred and eighty (180) days or longer, or (F) the manufacture, offering for sale, sale, possession, import, export or transfer of Product or Applicator infringes or is likely to infringe on the valid and enforceable Intellectual Property of Third Parties. RADIUS may also terminate this Agreement with thirty (30) days' notice in the event that upon thirty (30) days of receipt of an adjusted supply price from 3M pursuant to Exhibit D, D.7, RADIUS concludes that the Product is no longer economically viable; provided, however, that such termination right is not meant to apply to adjustments in supply price pursuant to Exhibit D, D.5, nor may it be invoked by RADIUS following the placement of firm orders for 3M manufacturing equipment or

capital for facility construction at Product CMO, provided 3M has notified RADIUS at least five (5) business days prior to placing such firm orders.

6.7 Upon termination by 3M pursuant to Section 6.2 or 6.5C or by RADIUS pursuant to Section 6.6, all licenses to RADIUS shall cease and all charges and expenses owed to 3M prior to the effective date of termination and any penalties imposed on 3M by a CMO for early termination, as set forth on Exhibit C, shall become due and payable. Except in the event of termination by RADIUS pursuant to Section 6.2 or 6.3, RADIUS shall pay all charges and expenses reasonably incurred by 3M in winding down its activities during the ninety (90) day notice periods referred to above in accordance with a mutually agreed upon wind-down plan and provided that 3M shall act diligently to minimize all wind down costs that may be incurred upon receipt of a termination notice. 3M shall fulfill all outstanding firm Purchase Orders previously accepted by 3M for Product and Applicator if 3M has actually commenced the Manufacture of Product and Applicator or committed itself to purchase or has purchased raw materials to Manufacture Product and Applicator. Upon RADIUS' request, 3M shall use reasonable efforts to terminate all outstanding commitments associated with the Manufacture of the Product and Applicator upon termination of this Agreement. In the event that 3M is unable to terminate all outstanding raw material purchase commitments for Product and Applicator following RADIUS' request, or has inventories remaining due to suppliers' minimum order quantities, RADIUS agrees to reimburse 3M for the remaining materials.

6.8 Technology Transfer - Upon non-renewal of the Term by 3M pursuant to Section 6.1 or termination by 3M pursuant to Section 6.5 or by RADIUS pursuant to Section 6.2 or 6.3, with respect to the Product and/or Applicator, as applicable:

A.(i) 3M shall use Commercially Reasonable Efforts to provide RADIUS, or a mutually agreeable Third Party, with sufficient 3M Know-How to enable RADIUS or the mutually agreeable Third Party to carry out 3M's and the CMOs' obligations under this Agreement ("**Technology Transfer**") and (ii) the provisions of Section 12.1 shall immediately cease to have further effect.

B.Technology Transfer may be performed for either or both of the Product or the Applicator, as necessary.

C.The Parties shall form a team comprised of representatives from manufacturing, regulatory, and quality assurance functions (and any others deemed necessary by a Party) to perform the Technology Transfer (the "**Technology Transfer Team**"). Such Technology Transfer shall be performed in accordance with a fully detailed written plan to be agreed upon by the Technology Transfer Team in good faith as promptly as practicable (and in any event within thirty (30) days after RADIUS' exercise of such right) and shall include: (i) providing a copy of all existing Know-How controlled by 3M relating to the Manufacture of the Product and/or Applicator (as applicable), including existing documentation constituting material support, performance advice, shop practice, specifications as to materials to be

used, control methods, standard operating procedures, descriptions of the Manufacturing process and related Know-How, development reports, analytical methods and other existing testing know-how including method validation reasonably required to perform release testing or other testing as may be required by any applicable Regulatory Authority (to the extent required by such Regulatory Authority for work completed up to the time of termination), batch records, and any other information, in each case that is necessary or reasonably useful to Manufacturing such Product and/or Applicator in accordance with the Specifications; (ii) making available personnel to assist and advise in connection with such transfer of Know-How [*]; and (iii) assigning 3M's contracts with the CMOs regarding Product and Applicator, as applicable, to RADIUS. 3M shall grant RADIUS, and its Affiliates and (sub)licensees, a lease to exclusively use all commercial manufacturing equipment for the Manufacture of Product (i) that has been [*] pursuant to Sections 5.1 and/or 5.2, or (ii) that has been ordered, but not yet [*]. Such lease shall be fully paid-up and remain in effect for as long as such equipment is being used by RADIUS, its Affiliates or (sub)licensees; provided that such lease will include a right for 3M to terminate such lease if there is an uncured material breach by RADIUS of its obligations under this Agreement. Promptly following termination of this Agreement (including termination as a result of non-renewal of the Term by 3M), 3M shall execute such reasonable documentation to evidence such lease to RADIUS.

D. Technology Transfer shall be deemed complete when 3M has provided the assistance set forth in Section 6.8C(i) through (iii) above and:

(i) for the [*] and packaging operations for Product, 3M has made Commercially Reasonable Efforts not to exceed [*] to transfer the process and to assign the contract with and turn over management of the Product CMO responsible for the process to [*] the Patch, but in no instance shall 3M be required to continue to provide efforts beyond such period if RADIUS or a Third Party is unable to reproduce the process to coat the Patch meeting Specifications despite 3M's reasonable assistance; and

(ii) for the Patch and/or Applicator, at 3M's option, 3M may (a) continue to supply the Patch and/or Applicator according to the operative forecast and agreed assumptions for future supply and subject to a mutually agreed supply agreement for Patch and/or Applicator, as applicable, to be negotiated in good faith by the Parties and on commercially reasonable terms, which the Parties shall make Commercially Reasonable Efforts to execute such agreement within [*] of the notice of non-renewal of the Term by 3M pursuant to Section 6.1 or the notice of termination by 3M pursuant to Section 6.5 or by RADIUS pursuant to Section 6.2 or 6.3, as applicable, or (b) use Commercially Reasonable Efforts to conduct a Technology Transfer of the Patch and/or Applicator, as applicable, to a

mutually agreeable Third Party.

E.3M shall supply Product for up to [*] post-termination, as necessary, pursuant to RADIUS' Rolling Estimates during the period of Technology Transfer. With respect to the Patch and/or Applicator, as applicable, at 3M's election, 3M shall either (i) continue to supply the Patch and/or Applicator, as applicable, according to the operative forecast and agreed assumptions subject to a mutually agreed supply agreement to be negotiated in good faith by the Parties and on commercially reasonable terms, which the Parties shall make Commercially Reasonable Efforts to execute such agreement within [*] of the notice of non-renewal of the Term by 3M pursuant to Section 6.1 or the notice of termination by 3M pursuant to Section 6.5 or by RADIUS pursuant to Section 6.2 or 6.3, as applicable, or (ii) conduct a Technology Transfer of the Patch and/or Applicator, as applicable, to a mutually agreeable Third Party, and 3M shall continue to supply the Patch and/or Applicator, as applicable, until such Technology Transfer is complete.

F.Licenses and related rights – The licenses granted from 3M to RADIUS in Section 12.6 (including Subsections thereunder) and the rights granted in Section 4.4 with respect to the Product and/or Applicator, as applicable, shall change as follows:

(i)The development license under 3M Background IP granted from 3M to RADIUS in Section 12.6A(i) of this Agreement shall [*] as to Product.

(ii)The development license under 3M Arising IP granted from 3M to RADIUS in Section 12.6A(ii) of this Agreement shall [*].

(iii)The development license under Joint Arising IP granted from 3M to RADIUS in Section 12.6A(iv) of this Agreement shall [*].

(iv)The development license under RADIUS Background IP and RADIUS Arising IP granted from RADIUS to 3M in Section 12.1A(iii) of this Agreement shall terminate, except to the extent that the license is necessary for 3M to carry out its obligations under this Agreement, including any related to Technology Transfer.

(v)The commercialization license under 3M Background IP granted from 3M to RADIUS in Section 12.6B(i) shall [*] as to Product.

(vi)The commercialization license under 3M Background IP granted from 3M to RADIUS in Section 12.6B(ii) shall [*] as to Applicators.

(vii)The commercialization licenses under 3M Arising IP granted from 3M to RADIUS in Section 12.6B(iii) shall [*].

(viii)The commercialization licenses under 3M Arising IP granted from 3M to RADIUS in Section 12.6B(iv) shall [*].

(ix)The commercialization licenses under Joint Arising IP granted from 3M to RADIUS in Section 12.6B(v) shall [*].

(x)Upon non-renewal of the Term by 3M pursuant to Section 6.1 or termination by 3M pursuant to Section 6.5 (in whole or with respect to Product) or by RADIUS pursuant to Section 6.2 or 6.3, RADIUS will pay royalties at an aggregate rate of [*] of Net Sales of Product in the U.S. for the [*] licenses contemplated in this Section 6.8F.

(xi)The "Right of reference or use" granted in Section 4.4 [*].

G.Options – RADIUS shall have the exclusive option to convert the non-exclusive licenses contemplated in Section 6.8F to exclusive licenses for Product, which shall be royalty-bearing. RADIUS also shall have the exclusive option to convert the non-exclusive licenses contemplated in Section 6.8F to exclusive licenses for Applicator, which shall be royalty-free so long as RADIUS has an exclusive license with respect to the Product under Section 12.6B(i), 12.6B(iii), 12.6B(v), or this Section 6.8G. Should RADIUS exercise this exclusive option with respect to the Product, RADIUS will pay royalties at an aggregate rate of [*] of Net Sales of Product; provided for clarity, that if RADIUS exercises this option with respect to the Applicator, no royalty shall be due or payable on the Applicator. Each of these exclusive options may be exercised by written notice to 3M within thirty (30) days of non-renewal of the Term by 3M pursuant to Section 6.1 or termination by 3M pursuant to Section 6.5 or by RADIUS pursuant to Section 6.2 or 6.3 with respect to the Product or Applicator, as applicable. If an exclusive option is not exercised within the applicable thirty (30) day period, it shall expire.

(i)In the event that RADIUS converts the licenses in Section 6.8F to exclusive, [*] patent prosecution and enforcement rights in Sections [*] and [*] with respect to [*] shall survive termination.

(ii)For avoidance of doubt, nothing in Section 6.8G imposes on 3M any obligation to grant a license to make, have made, sell, offer to sell, use, possess, import, export, transfer, or otherwise dispose of or Commercialize any product other than the Product.

H.Notwithstanding anything else in this Section 6.8, 3M shall have no obligation to perform Technology Transfer to any Third Party that is not under a confidentiality obligation to 3M, with entry into such confidentiality agreement not to be unreasonably withheld or delayed by 3M, and with such confidentiality agreement to be no less stringent than those contained within this Agreement.

I. Any Technology Transfer shall be conducted at [*], except if [*] terminates this Agreement pursuant to Section [*] or if [*] terminates this Agreement pursuant to [*], in such case any Technology Transfer shall be conducted at [*] expense.

J. RADIUS shall indemnify and hold harmless 3M for any liability of 3M arising out of Product and Applicator Manufactured by RADIUS or such Third Party or by 3M during the [*] transition and after such Technology Transfer, including without limitation indemnification for any reasonable costs and expenses, (including without limitation reasonable attorney's fees, costs and disbursements), that 3M may incur in defending any accusation of such liability.

7. PRICE AND PAYMENTS

7.1 The initial, [*] supply prices for finished, packaged Product based on total annual volume of Product ordered in a Calendar Year is set forth in Exhibit D.

7.2 RADIUS shall pay 3M at a rate of [*] Dollars ($[*]) per hour for work carried out by 3M as set forth in the Scale-up Workplan and shall reimburse 3M for any costs incurred by 3M at the CMOs on a pass-through basis, without adjustment or markup, as agreed to in the Scale-up Workplan. RADIUS shall also pay 3M at such rate for: (A) work carried out by 3M for documented costs related to [*] for Product; and (B) any work required to implement changes requested by RADIUS or pursuant to Section 7.5. 3M shall provide a quarterly rolling forecast of the estimated hours required for such work under this Section 7.2 for the succeeding twelve (12) months and will not exceed such estimate by more than [*] without prior approval of RADIUS, not to be unreasonably withheld. 3M shall invoice RADIUS for such work on a monthly basis in arrears. 3M shall have the right to increase the hourly rate set forth in this Section 7.2 once per Calendar Year in an amount equal to the increase in the [*] as published by the U.S. Department of Labor over the previous Calendar Year upon thirty (30) days' written notice to RADIUS.

7.3 RADIUS shall pay 3M for any clinical supplies used in Phase I Studies and Phase II Studies pursuant to the terms and conditions in the Development Agreement. Clinical supplies for Phase III Studies and studies concomitant to Phase III, [*], shall be charged, as applicable, (A) on a time and materials basis for Product manufactured at 3M's Minnesota site, or (B) at no cost for quantities up to [*] units, for the initial supply for Product manufactured at the Product CMO, as the cost of initial batch manufacturing is already included in start-up costs for the CMO, and for quantities above that amount, at the supply price for the Product set forth in Exhibit D and (C) on a time and materials basis for Applicator until 3M enters into a commercial supply agreement with the Applicator CMO and thereafter at the supply price for the Applicator set forth in Exhibit D, to be adjusted at that time.

7.4 Once in each Calendar Year, after the initial commercial launch of Product, 3M shall adjust the supply price for the Product or Applicator in accordance with Exhibit D.

7.5 Extraordinary Costs and Price Increases – Notwithstanding the price adjustments set forth in Exhibit D, 3M shall provide to RADIUS documentation of, and may charge RADIUS directly at the time 3M incurs, any extraordinary costs (including one time implementation costs) or price increases related to any of the following items; provided that such items are beyond 3M's reasonable control, and that 3M use Commercially Reasonable Efforts to mitigate recurrence of, or avoid, any such extraordinary costs (including, for example, by entering into commercial supply agreements with 3M's vendors and suppliers):

A. increase in the cost of raw materials used in Manufacturing Product, provided by 3M, including but not limited to the components procured by 3M, if not procured by the CMO and any similar extraordinary cost increases passed on to 3M by the CMO;

B. price increases to Product due to taxes/assessments imposed by any authority or passed on to 3M by its suppliers (relevant to 3M's obligations in this Supply Agreement) in the form of cost increases or in any other manner;

C. any increased costs of any changes or modifications in the Manufacture or testing of Product that RADIUS or a Regulatory Authority may require be implemented and 3M has agreed to implement, except for any changes a Regulatory Authority may require to be implemented by 3M or a CMO which is specific to the facility at which the Product is Manufactured and such change is not related to the Product, in which case such increased costs shall be borne solely by 3M;

D. any costs incurred by 3M in connection with any changes or modifications to the Specifications for Product made by or at the request of RADIUS and/or a Regulatory Authority; and

E. after First Commercial Sale, any costs to 3M in the event that RADIUS' annual orders of Product are less than the minimum quantity shown in the pricing table in Exhibit D, such costs will be equivalent to the number of units of shortfall multiplied by the then current Product CMO transfer price for a unit of Product divided by [*] defined in Exhibit D. Prior to First Commercial Sale, in the event RADIUS anticipates that its launch quantities will be less than the minimum quantity shown in the pricing table in Exhibit D, RADIUS shall promptly notify 3M and 3M shall make Commercially Reasonable Efforts to work with the Product CMO to minimize any costs due to such volumes below the minimum.

A price increase under Section 7.5A through 7.5D is considered extraordinary under this Agreement if and to the extent, it increases the then-current Cost of Goods Sold of Product by more than [*] during such Calendar Year (which increase in 3M's Cost of Goods Sold pursuant to this Section 7.5 may be audited on behalf of RADIUS in accordance with Section 7.10 (*mutatis mutandis*)). 3M shall not be entitled to increase supply prices pursuant to Exhibit D for any extraordinary price increase under Section

7.5A through 7.5D. For the avoidance of doubt, 3M may charge RADIUS any costs incurred by 3M required to implement activities relating to Sections 7.5C and 7.5D, in addition to any extraordinary price increases; provided that 3M notify RADIUS in advance and provide documentation of such costs of implementation. If RADIUS disputes any price increase under this Section 7.5, it shall submit such issue to the JMC.

7.6 Price Decreases – The Parties commit to develop and implement mutually agreed upon continuous improvement projects and objectives and, where possible, to mitigate any extraordinary costs or price increases through the JMC, with respect to the Manufacture of the Patch, Product and Applicator, and, where possible, 3M will use reasonable efforts to negotiate advantaged pricing with the CMO for the benefit of 3M and RADIUS. For the avoidance of doubt, any continuous improvement shall be governed by the JMC and the benefits of such programs shall be shared by both Parties in an equitable manner agreed by the JMC. In the event that the Parties cannot agree to benefit sharing, the Parties shall resolve such disagreement pursuant to Section 17.7.

7.7 Payments of the supply price and all taxes applicable shall be made by RADIUS in U.S. Dollars (USD) within thirty (30) days after the date of 3M's invoice. Payments by RADIUS shall be net thirty (30) days from receipt of undisputed invoices with interest accruing at [*] for late payments.

7.8 Royalties – During the Term, RADIUS will make royalty payments to 3M at the following rates:

A. U.S. – RADIUS will pay royalties at a rate of [*] of Net Sales of Product in the U.S.

B. Ex-U.S. Territory – For the Ex-U.S. Territory, on a country-by-country basis, RADIUS will pay royalties of Net Sales of Product in such country based on the total annual sales of units of Product by RADIUS to Third Parties in the U.S. in a Calendar Year at the following rates:

(i)if the volume of total annual sales exceeds [*] units of Product in [*] in such Calendar Year, [*] of total Annual Net Sales of Product in the Ex-U.S. Territory; or

(ii) if the volume of total annual sales is [*] in [*] in such Calendar Year, the greater of: (a) [*] of total Annual Net Sales of Product in the Ex-U.S. Territory; or (b) [*] per unit of Product.

C.In no event shall RADIUS pay 3M royalties on Net Sales of the Applicator. In the event that RADIUS elects to sell the Product and Applicator together as a kit, the royalty due to 3M on Net Sales of such kit shall be calculated as follows:

(i) If RADIUS also sells the Applicator alone, RADIUS may [*] for the purpose of calculating the royalty on Net Sales of such kit due to 3M.

(ii) If RADIUS does not elect to sell the Applicator separately, RADIUS may [*] from the royalty on Net Sales of Product.

7.9 Royalty Report; Payment – Within [*] days following the end of each calendar quarter during the Term, RADIUS shall furnish to 3M a written report, showing in reasonable detail the number of units of Product sold, amount of Net Sales and a calculation of royalties due for Product on a country-by-country basis, and any other payments accrued during such period, together with the associated royalties payment and other payments.

7.10 During the Term and for a period of [*] years after its termination, expiration or cancellation, but no more than once each Calendar Year, each Party shall, upon thirty (30) days' prior written notice, have the right to have an independent Third Party auditor, mutually acceptable to both Parties, examine the relevant books and records of the other Party for the previous [*] Calendar Years to (A) if RADIUS is the auditing Party, verify the time spent by 3M in performance of the Scale-up Workplan, and confirm that any price increases, price adjustments, or costs were made in accordance with and consistent to the requirements of this Agreement; and (B) if 3M is the auditing Party, confirm the accuracy of all royalty payments. Any such auditor shall be subject to confidentiality obligations no less stringent than those contained in this Agreement and shall not disclose the audited Party's confidential information to the auditing Party, except to the extent such disclosure is necessary to verify the accuracy of the financial reports furnished by the audited Party or the amount of payments due by the audited Party under this Agreement. The audits shall be conducted during reasonable business hours. The cost of all audits conducted pursuant to this Section 7.10 shall be borne by the auditing Party unless the auditors find a discrepancy of more than [*] that would be owed to the auditing Party, in which case the reasonable costs of the audit shall be borne by the audited Party.

8. GENERAL TERMS OF SUPPLY

8.1 3M shall Manufacture or have Manufactured Product and Applicator in accordance with written orders placed by RADIUS according to the terms and conditions of this Agreement. 3M will perform all Manufacturing of Product and Applicator (except those Manufacturing processes performed by CMOs) at the 3M Facility. 3M will maintain sufficient capacity at the 3M Facility and CMOs facilities (provided that [*] notice by RADIUS is provided to add additional [*] beyond the first module and [*] notice is provided for additional [*] which require facilities modifications other than minor modification within existing space to provide utilities to additional [*]) to Manufacture the quantities of Product and Applicator as set forth in the Rolling Estimates in compliance with the warranty in Section 13.2. The Parties shall mutually agree on any change in a CMO from the CMOs planned to be used as of the Effective Date. Further, 3M will not change facilities or use additional facilities for the Manufacture of Product and Applicator under this Agreement without the prior written consent from RADIUS,

such consent not to be unreasonably withheld or delayed (it being understood and agreed that RADIUS may withhold consent pending satisfaction of a quality assurance audit and regulatory and business impact assessment of the new CMO, location or additional facility, as the case may be). With respect to the initial Product CMO, 3M represents and warrants that the contract between 3M and the Product CMO will be assignable to RADIUS in accordance with this Agreement. With respect to any subsequent agreement 3M enters into with a CMO for Product, 3M will use Commercially Reasonable Efforts to include a provision in such agreement allowing 3M to assign such agreement to RADIUS without having to obtain the prior consent of such CMO. RADIUS acknowledges that the Change Order covering the design and facilities modifications that is currently being executed under the Development Agreement contemplates volumes up to [*] units of Product. In the event RADIUS requires additional volumes, the Parties shall meet in good faith to discuss the business terms to add additional capacity to meet RADIUS' additional requirements.

8.2 3M shall provide, or cause to be provided, the schedule of Product CMO's production of Product at least [*] days in advance of commencement of such production. RADIUS shall supply free of charge to the Product CMO on a timely basis (at least [*]) days in advance of scheduled production) the Compound meeting agreed specifications and in quantities sufficient to meet (A) the Rolling Estimates for the Product or (B) the Scale-up Workplan. RADIUS shall provide a Certificate of Analysis with each delivery of Compound. Subject to the Product CMO's compliance with the storage and handling requirements for Compound as described in Section 8.3 below, RADIUS warrants and represents that all Compounds will meet applicable specifications and will have been produced in compliance with all Applicable Law (including cGMPs). In the event upon visual inspection 3M or the Product CMO finds damage to Compound from shipment, 3M or the Product CMO will, at RADIUS' request and at no expense to 3M or the Product CMO, provide reasonable and necessary assistance to RADIUS in connection with any claim against the transportation company. In the event that RADIUS does not supply Compound at least [*] days in advance of scheduled production and the Product CMO cancels 3M's order and charges 3M a cancellation fee, RADIUS shall reimburse 3M for any such fees imposed upon 3M by the Product CMO in the supply agreement between 3M and Product CMO with respect to Product, as described in Exhibit C.

8.3 3M will require the Product CMO to adhere to the storage requirements and conditions for Compound as set forth in the Quality Agreement or otherwise provided to Product CMO, and exercise no less than reasonable standard of care, to prevent damage, destruction, deterioration or other harm of Compound located at Product CMO. All Compound in the custody of the Product CMO will be and remain the exclusive property of RADIUS at all times. All risk of loss for Compound located at Product CMO shall lie with RADIUS, except to the extent any such loss is attributable to Product CMO's [*] in the storage or handling of Compound or to a violation of 3M's Product warranty set forth in Section 13.2. In the event of a loss of Compound caused by Product CMO's [*], 3M

shall promptly reimburse RADIUS at the actual documented cost of Compound, capped at [*] of the supply price for Product as set forth in Exhibit D.

8.4 Commercial orders placed by RADIUS shall not be for less than a Lot, shall always be in multiples of full Lots, and shall specify RADIUS' desired delivery date.

8.5 Upon RADIUS' request, 3M shall, and shall cause the Product CMO to, store quantities of clinical supplies of Product (with or without packaging or labeling) or commercial Product in the period prior to Regulatory Approval and launch at the Product CMO site in a suitable storage location under the storage requirements and conditions as set forth in the Quality Agreement or otherwise agreed upon by the Parties. 3M shall pass through the reasonable and customary storage charges of the Product CMO to RADIUS without further markup.

8.6 The content of the labels, packages and package inserts shall, for Product and Applicator to be distributed and sold in the Territory, be the responsibility of RADIUS and be in accordance with each Regulatory Approval for the Product and the regulatory requirements of each applicable country or territory. For Product to be distributed and sold outside the U.S., RADIUS agrees that the content of the labels, packages and package inserts for the Product and Applicator shall be in accordance with the regulatory requirements for the country for which the Product and Applicator are being produced. RADIUS agrees that Product and Applicator marking, packaging, labeling, cartons and package inserts shall state, where and to the extent required by Applicable Law or regulation, in appropriate places, "Manufactured by 3M Drug Delivery Systems." All artwork for Product and Applicator will be provided free of charge by RADIUS. RADIUS will reimburse 3M for all reasonable internal or external costs incurred relating to changes in labeling or packaging for Product and Applicator requested by RADIUS. RADIUS shall reimburse 3M for the actual cost of any packaging for Product and Applicator that is determined to be or becomes obsolete for whatever the reason and the actual cost of disposing of any such obsolete packaging. RADIUS shall not be responsible for any costs associated with obsolete packaging for Product and Applicator that is in excess of the amount of packaging required to fulfill RADIUS' current firm Purchase Orders, except where such excess is due to minimum order quantities for such packaging.

8.7 All Product and Applicator shall be shipped Ex-Works (Incoterms 2010). 3M shall invoice RADIUS for the supply price upon the delivery of each shipment of Product or Applicator to RADIUS' carrier at 3M's delivery point. Payments shall be made by RADIUS in accordance with Section 7.2. RADIUS shall have [*] days following receipt of Product or Applicator and Batch Documentation from 3M to inspect and accept or reject delivery or to initiate an investigation of a potential quality issue. RADIUS shall not be required to pay for any Product or Applicator properly rejected as a result of a breach of 3M's Product warranty pursuant to Section 13.2. Further, 3M shall be responsible for the return or disposal of any properly rejected Product or Applicator. Further, RADIUS shall have a reasonable period of time, not to be less than [*] days

following discovery of a Latent Defect to inform 3M, in writing, of such Latent Defect. Failure on the part of RADIUS to notify 3M of its rejection of the delivered Product or Applicator or initiation of investigation of a potential quality issue within this [*] period shall be treated by RADIUS and 3M as RADIUS' acceptance of the Product or Applicator unless a Latent Defect exists.

9. ROLLING ESTIMATES, BINDING PURCHASE ORDERS

9.1 Throughout the Term, RADIUS shall deliver to 3M the monthly Rolling Estimates, on or before the tenth (10^{th}) day of each calendar month for Product and Applicator. The first [*] months of such Rolling Estimates shall constitute binding orders for Product and Applicator ("**Firm Commitment**") and the following [*] months of the Rolling Estimates shall be non-binding, good faith estimates for Product and Applicator. In the event that any month in the Rolling Estimate outside the Firm Commitment varies by more than [*] from the previous Rolling Estimate, RADIUS will promptly notify 3M and the Parties shall meet to discuss such demand change and how to best accommodate both Parties. 3M must approve any variations of more than [*] and shall use Commercially Reasonable Efforts to accommodate Purchase Orders for Product or Applicator in excess of the Rolling Estimate, provided that under no circumstances shall 3M be obligated to supply RADIUS with quantities of Product or Applicator above the applicable Rolling Estimates on which a RADIUS Firm Commitment is based.

9.2 Concurrently with the submission of each Rolling Estimate, RADIUS shall submit a purchase order for the Firm Commitment of Product and Applicator; provided that the first such purchase order will be for one hundred percent (100%) of the quantities of the Product and Applicator in the Firm Commitment and each subsequent monthly purchase order will be for the incremental portion of the Firm Commitment that was not the subject of a previous purchase order (i.e., the [*] month of the Rolling Estimate) (each, a "**Purchase Order**"). The Purchase Order shall communicate the desired quantities of Product and Applicator and shipping dates. All other terms of the Purchase Order and all terms of any acknowledgment form or invoice from 3M shall be void and of no effect, and the terms of this Agreement shall control over such forms, or any other forms, unless otherwise specifically agreed to in writing by both Parties. Purchase Orders shall be deemed to be accepted by 3M unless 3M notifies RADIUS within ten (10) Business Days that is does not accept the Purchase Order as written and 3M shall only do so in the event 3M is aware of circumstances that will prevent the Purchase Orders from being filled in the quantities and timing required, which circumstances shall be promptly communicated to RADIUS. 3M shall use Commercially Reasonable Efforts to prevent any delays or shortfalls in fulfillment of any Purchase Orders.

9.3 3M shall meet the Purchase Orders, subject to the terms and conditions of this Agreement. 3M shall provide RADIUS with as much advance notice as possible if 3M determines that Manufacturing will be delayed for any reason.

9.4 Exclusive Remedy for Supply Failure - In the event of a Supply Failure with respect to the Product or Applicator, RADIUS shall have the right to cause 3M to effect, and 3M shall effect, a Technology Transfer to RADIUS, or a mutually agreeable Third Party as set forth in Section 6.8 with respect to the Product or Applicator, as applicable. Such Technology Transfer shall be at [*] cost and expense. RADIUS shall make Commercially Reasonable Efforts to reach agreement with any such Third Party with respect to supply of the Product or Applicator that reflects, should 3M be able to reasonably assure RADIUS of 3M's ability to perform its obligations in accordance with this Agreement and to Manufacture the Product or Applicator in accordance with RADIUS' then-current Rolling Estimate for the Product or Applicator, as applicable, within [*] after the date of such Supply Failure, then RADIUS shall issue Purchase Orders equal to [*] of RADIUS' then-current Firm Commitment for the Product or Applicator, as applicable, to 3M; provided, if 3M is unable to reasonably assure RADIUS of 3M's ability to perform its obligations in accordance with this Agreement and to Manufacture the Product or Applicator in accordance with RADIUS' then-current Rolling Estimate for the Product or Applicator, as applicable, after such [*] period, RADIUS shall only be obligated to issue Purchase Orders to 3M, subsequent to such [*] period, in quantities equal to 3M's available capacity for Product and/or Applicator, as demonstrable and as agreed by both parties, at the end of such [*] period.

10. MANUFACTURING STANDARDS AND QUALITY ASSURANCE

10.1 Commercial Quality Agreement – Upon request by RADIUS, 3M and RADIUS will negotiate in good faith a form of Quality Agreement to be entered into with a CMO. 3M, a CMO and RADIUS will negotiate in good faith and enter into a Quality Agreement. In the event of a conflict between any provisions of this Agreement and the Quality Agreement with respect to quality-related activities, including cGMP, the provisions of the Quality Agreement shall govern. In the event of a conflict between any of the provisions of this Agreement and the Quality Agreement with respect to any other matters, including allocation of risk, liability and financial responsibility, the provisions of this Agreement shall govern.

10.2 3M shall Manufacture or have Manufactured the Product and Applicator according to all Applicable Law, cGMP, the approved Specifications and the requirements of the Regulatory Approval for the Product and Applicator. 3M shall send electronically to RADIUS all Batch Documentation for all Product and Applicator as early as possible following receipt from CMO and determination that it is in compliance with the foregoing sentence. 3M shall ensure that the CMO completes release testing and sends such Batch Documentation to RADIUS within [*] days of the Manufacturing date of such Product. The Parties shall work together to establish a process to enable RADIUS to use Commercially Reasonable Efforts to review Batch Documentation and to communicate its decision to release for shipment to RADIUS or refusal to release the Product or Applicator or other request for correction or clarification of the executed Batch Record, as applicable, for shipment to RADIUS within [*] Business Days of receipt of the Batch

Documentation. Following the release of the first ten (10) batches, 3M shall send electronically a subset of the Batch Documentation as specified by RADIUS in lieu of all Batch Documentation subject to the right of RADIUS to request all Batch Documentation. 3M will approve the Product and Applicator as applicable, for release to RADIUS and RADIUS shall release the Product and Applicator as applicable, in accordance with all applicable regulatory requirements and release Specifications.

10.3 In the event a batch of Product fails to pass release testing due to: (A) failure of any Compound supplied by RADIUS to meet Specifications; or (B) a change in the Manufacturing process, raw materials or manufacturing site for Compound used in Manufacturing such batch that 3M was not made aware of in writing pursuant to Section 10.8 or otherwise and such failure could not reasonably have been detected by 3M at the time of delivery of Compound to 3M, RADIUS shall pay 3M for such Product.

10.4 Testing/Testing disputes.

A. RADIUS shall have the final responsibility for the review of Batch Documentation for each Lot of Product and Applicator and release the Product and Applicator to the market, as required by 21 CFR Part 211.22. In addition to 3M's testing, RADIUS may test and release each Lot pursuant to the Test Methods or rely upon 3M's testing to permit final release of such Lots. RADIUS will validate the reliability of 3M testing for Product and Applicator on an ongoing basis as required by cGMP regulations. In the event RADIUS rejects any Lot of Product or Applicator for reasons other than damage during shipment, RADIUS shall use the identical Specifications and Test Methods used by 3M to test Product or Applicator and 3M also shall have the right to test such Lot(s). In the event RADIUS rejects any Lot for reasons other than damage during shipment, and the Parties do not agree upon whether the Product or Applicator met Specifications, both Parties will discuss the matter and both shall attempt to resolve the issue. This may involve retesting. If the Parties cannot resolve the matter, the Parties agree to submit the dispute to an independent testing laboratory acceptable to both Parties. The Parties will work with the independent testing laboratory to obtain test results within [*] days. The determination of such independent laboratory will be binding on both Parties. If more than [*] has elapsed between the initial testing by 3M and that of the independent laboratory, the results shall be judged according to the registered (shelf-life) Specifications rather than any internal limits used at batch release. The cost of the testing by the independent laboratory shall be borne by the Party whose results were in error.

B. Until any dispute is resolved, RADIUS will not dispose of any non-conforming shipment without prior written authorization from, and agreement with, 3M.

C. Nothing in this section shall change the rights RADIUS has to a remedy for non-conforming Product or Applicator under Sections 13.2, 14.1 and 15.1.

10.5 Retained samples - 3M shall maintain samples from each Lot of Product and Applicator, in quantities sufficient to meet regulatory guidelines of the FDA and any other applicable Regulatory Authority and at a minimum for at least two (2) complete analyses of all chemical and microbiological tests for one (1) year from the date of expiration on each Lot of Product and Applicator. RADIUS shall maintain quantities of packaged commercial Product and Applicator to meet regulatory guidelines of the FDA and of any other applicable Regulatory Authority. These obligations shall survive the termination of this Agreement.

10.6 Plant Inspections and Audits.

A.3M shall allow RADIUS' personnel and/or representatives or consultants upon no less than thirty (30) days prior written notice, access to the areas of 3M's manufacturing facilities, as well as access to each CMO's manufacturing facilities, where the Product or Applicator is being Manufactured, stored, packaged (if applicable), tested and documented for RADIUS during the times of such operations, for the purpose of routine cGMP audits pertaining to Product. 3M shall have the right to [*]. For the avoidance of doubt, 3M shall lead all audits and any such access referenced in this Section 10.6 by RADIUS' personnel and/or representatives shall only be permitted in the presence of authorized 3M representatives. Such audit requests shall be made no more than once (1) per year by no more than two (2) RADIUS personnel and be no longer than two (2) days in length; provided, however, that RADIUS may conduct any additional "for-cause" audits or request 3M to conduct a "for-cause" audit at the CMOs at mutually agreed upon times with reasonable advance notification to 3M in the event that there is a material quality or compliance issue concerning the Product or Applicator. RADIUS shall provide 3M reasonable advance notice in writing of its desire to have such access, except where RADIUS' request is due to FDA action related to Product or Applicator or to another similar urgent and important reason, in which case, RADIUS may request more immediate access to 3M's or CMO's facilities within an appropriate period of time. Under no circumstances shall RADIUS be allowed to conduct audits of 3M's CMOs without 3M's presence. 3M shall share the CMO audit results pertaining to Product or Applicator with RADIUS and 3M shall have sole responsibility to resolve any audit findings with the CMOs, and will consult with RADIUS and reasonably take into account RADIUS' input on any such resolution of audit findings. Observations of 3M's or CMO's manufacturing facilities, including equipment, materials documentation and audit findings shall be 3M Confidential Information for purposes of this Agreement.

B.3M will promptly advise RADIUS of any request for 3M facility inspection by any Regulatory Authority. 3M will make its facilities available for inspection by representatives of Regulatory Authorities in compliance with Applicable Law. RADIUS may have one (1) or more representatives present at the facility during

any inspection by a Regulatory Authority relating to the Manufacture of Product or Applicator, but for the avoidance of doubt, RADIUS' representative shall be sequestered until such time as 3M or the Regulatory Authority working through a 3M representative, requests information of RADIUS. Such representatives may not directly interact with such Regulatory Authority during such inspection without 3M's prior consent. Upon request, 3M shall provide RADIUS a copy of any report or other communication relating to the Manufacture of Product or Applicator issued to 3M by such Regulatory Authority following a visit to the facility, redacted as appropriate to protect any confidential information of 3M or 3M's customers. 3M will provide RADIUS its proposed response to any FDA Form 483 (or similar form issued by FDA or a foreign regulatory authority) issued in connection with the Manufacture of the Product or Applicator, and will consider in good faith any comments and suggestions by RADIUS with respect to such response. All general and pre-approval inspections by the FDA of 3M manufacturing facilities shall be managed solely by 3M personnel.

C.3M shall at its own costs and expense take all reasonable steps required by RADIUS or a Regulatory Authority to cure any 3M deficiencies found in any audit, inspection or investigation described in Section 10.6A or 10.6B within a reasonable timeframe after 3M becoming aware of such deficiency.

D.3M shall have lead and RADIUS shall have subordinate responsibility for auditing the CMOs.

10.7 Product Complaints – RADIUS shall have primary responsibility for receiving, evaluating, classifying, investigating and responding to all Product and Applicator complaints from the Territory. 3M shall, upon RADIUS' written request, provide reasonable cooperation in investigating all Product and Applicator complaints that may involve the Manufacture of Product or Applicator. If 3M receives a Product or Applicator complaint, 3M shall provide such complaint to RADIUS within [*] receipt of such complaint.

10.8 RADIUS shall be responsible for ensuring that all suppliers of Compound manufacture in accordance with the relevant quality standards and all Applicable Law, including performing any necessary quality audits. RADIUS shall take such steps with its Compound supplier as it takes with its other suppliers to make sure such Compound suppliers notify RADIUS of any material changes in the Manufacturing process, site of Manufacture or source of raw materials to the extent such changes require notification to a Regulatory Authority or otherwise impact the quality of the Compound. Upon receipt of such notice, RADIUS shall notify 3M in writing of such change. RADIUS shall promptly work in good faith with 3M in the investigation and resolution of any problems relating to Compound. Each shipment of Compound from a Compound supplier must include a Certificate of Analysis from RADIUS or the Compound supplier that substantiates that the applicable Compound meets the applicable Specifications, cGMP and is ready for use in Manufacture of the Product. RADIUS shall be responsible for

qualifying the Compound suppliers. Upon completion of the visual identification and testing by 3M or the Product CMO, 3M or the Product CMO shall insert the Compound into the Product Manufacturing process.

10.9 In the event that facilities in which either the Compound or any 3M supplied materials incorporated into the Product or Applicator are Manufactured are the subject of an inspection by any Regulatory Authority or RADIUS or 3M becomes aware that a supplier's facilities are the subject of such an inspection, and the inspection is specific for any of the Compound or 3M supplied materials incorporated into the Product or Applicator, the Party responsible for such supplies shall notify the other Party and shall report to the other Party any reports of any problems as either RADIUS or 3M becomes aware of them and to the fullest extent it is not otherwise prohibited from disclosing such information to the other Party.

11. CONFIDENTIAL INFORMATION

11.1 Each Party agrees not to use or disclose Confidential Information of the other Party for any purpose other than performing under this Agreement and, as otherwise expressly permitted, if at all, under the terms of this Agreement.

11.2 Each Party will treat Confidential Information furnished by the other Party with the same degree of care as if it were its own confidential proprietary information (but under no circumstances less than a reasonable standard of care) and, except as required for purposes of performing under or as expressly permitted by this Agreement, will not disclose such information to any Third Party, other than its Affiliates, owners, officers, directors, employees, agents, subcontractors, consultants, sublicensees, collaborators, suppliers and representatives, (collectively referred to as "**Representatives**") or the CMOs who have a need to know the Confidential Information in order to perform the receiving Party's obligations under this Agreement, without the prior written consent of the Party who furnished such Confidential Information. The receiving Party shall be responsible for the compliance and liable for any non-compliance of all of its Representatives and the CMOs that are provided the Confidential Information of the disclosing Party with the obligations of this Section 11.

11.3 Any disclosure to Representatives shall require such Representative to enter into a written agreement with the receiving Party to maintain the Confidential Information of the disclosing Party in accordance with the requirements of this Section 11 for the period required of the disclosing Party (but under no circumstance shall such period of time extend beyond that established for recipients of Confidential Information as set forth in this Section 11), unless such Representative has legally enforceable professional confidentiality obligations.

The restrictions on the use of Confidential Information as set forth above shall not apply to any Confidential Information which:

A.was known by the receiving Party as evidenced by its written records made prior to the time of receipt hereunder;

B.either before or after the time of disclosure becomes known to the public other than through a breach by the receiving Party or its Representatives of its obligations under this Agreement;

C.was lawfully disclosed to the receiving Party by a Third Party having the right to disclose said Confidential Information; or

D.was information developed by the receiving Party independently without use of or reference to the Confidential Information provided by the other Party hereto as evidenced by the receiving Party's written records.

11.4 Required disclosures - The receiving Party shall also be entitled to disclose the terms of this Agreement and the other Party's Confidential Information that is required to be disclosed (A) to or by a Regulatory Authority; (B) to comply with Applicable Law (including, without limitation, to comply with U.S. Securities and Exchange Commission ("**SEC**"), NASDAQ or stock exchange disclosure requirements); (C) to comply with judicial process or an order of any governmental body or a court of competent jurisdiction; or (D) to defend or prosecute litigation; provided, however, that in each case the Party required to disclose such Confidential Information shall use reasonable efforts to notify the other Party in advance of such disclosure and shall provide the disclosing Party with reasonable assistance, at disclosing Party's expense, to obtain a protective order and/or confidential treatment of such Confidential Information, to the extent available, and thereafter only discloses the minimum Confidential Information required to be disclosed in order to ensure legal compliance. Further, the receiving Party, may disclose the terms of this Agreement only, to any bona fide actual or prospective acquirers, underwriters, investors, lenders or other financing sources and any bona fide actual or prospective collaborators or (sub)licensees, subject to the requirements for disclosure of Confidential Information set forth in Section 11.3.

11.5 Duration - Each Party's obligations under this Article shall extend during the Term of this Agreement entered into between the Parties and shall survive for ten (10) years after the termination or expiration of this Agreement, including any extensions or renewals of this Agreement. Notwithstanding the foregoing, the obligation regarding any privileged common-interest material that has been may be disclosed shall not expire until such material ceases to be privileged common-interest material.

11.6 Applicability of previous CDAs - All Confidential Information exchanged between the Parties in any confidential disclosure agreements previously executed by and between 3M and RADIUS and the Development Agreement, shall continue to be treated as Confidential Information under this Agreement. This Agreement shall supplement such previous agreements to the extent the provisions of this Agreement extend or enlarge any term of any previous agreement. This Agreement does not change the privileged status

of any privileged common interest materials that may have been, or may be in the future, exchanged between 3M and RADIUS.

11.7 Return of Confidential Information - Within sixty (60) days following the termination or expiration of this Agreement and upon request of the disclosing Party, at the option of the disclosing Party, the receiving Party shall either: (A) return the other Party's Confidential Information to the other Party; or (B) destroy the other Party's Confidential Information. The receiving Party shall be entitled to retain one (1) record copy of the disclosing Party's Confidential Information for evidentiary purposes only, and RADIUS shall be entitled to retain all Confidential Information transferred to RADIUS in connection with the Technology Transfer.

12. EXCLUSIVITY; INTELLECTUAL PROPERTY; LICENSES

12.1 Exclusivity – Except as expressly set forth in this Agreement, during the Term, with respect to the delivery of Compound, PTH, and/or PTH Related Protein via active transdermal, intradermal, or microneedle technology, 3M shall work exclusively with RADIUS and RADIUS shall work exclusively with 3M.

12.2 Ownership of IP - Except as otherwise set forth in this Section 12.2, ownership of any Inventions arising out of the activities contemplated in this Agreement and the Development Agreement, as well as ownership of any Intellectual Property Rights related to such Inventions, shall be determined by the identity of the Inventor or Inventors in accordance with the laws of the United States. Each Party will promptly disclose to the other Party in writing, and will cause its Affiliates and subcontractors to so disclose, the conception or creation of any Inventions in connection with activities contemplated under this Agreement or the Development Agreement.

A.3M Background IP – All right, title and interest in and to 3M Background IP shall remain solely owned or Controlled, as the case may be, by 3M, 3M IPC, or their Affiliates. Nothing in this Agreement shall be construed to grant any assignment or other ownership rights in 3M Background IP to RADIUS or its Affiliates. Except as specifically provided for in this Agreement, nothing in this Agreement grants any licenses to 3M Background IP.

B.RADIUS Background IP – All right, title and interest in and to RADIUS Background IP shall remain solely owned or Controlled, as the case may be, by RADIUS or its Affiliates. Nothing in this Agreement shall be construed to grant any assignment or other ownership rights in RADIUS Background IP to 3M. Except as specifically provided for in this Agreement, nothing in this Agreement grants any licenses to RADIUS Background IP.

C.3M Arising IP – Ownership of all right, title and interest in and to 3M Arising IP shall vest in 3M IPC. RADIUS, on behalf of itself and its Inventors, agrees to

assign and hereby does assign to 3M IPC any and all of its right, title, and interest in 3M Arising IP.

D.RADIUS Arising IP – Ownership of all right, title and interest in and to RADIUS Arising IP shall vest in RADIUS. 3M, on behalf of itself and its Inventors, agrees to assign and hereby does assign to RADIUS any and all of its right, title, and interest in RADIUS Arising IP.

E.Joint Arising IP –Ownership in all right, title and interest in and to Joint Arising IP shall vest jointly in RADIUS and 3M IPC. Subject to the other Party's Background IP, and subject to Sections 6.8F, 6.8G, 12.2A, 12.2B, and 12.4C herein, each Party shall have the right to fully exercise its ownership rights in Joint Arising IP, including the right to exploit, transfer, license, sublicense, encumber, or otherwise dispose of the Party's interest in Joint Arising IP, without notice or accounting to the other Party.

F.Further Assurances - Each Party agrees to execute all such documents and instruments and to perform all such acts (and cause its Affiliates, and each of their relevant employees and agents, to execute such documents and instruments and to perform such acts) as may be reasonably necessary in order to formally vest ownership as set forth in this Section 12.2.

G.Development Agreement – Within thirty (30) days after the Effective Date (or such longer period of time as the Parties may mutually agree), the Parties shall amend the Development Agreement to reflect the terms and conditions of this Article 12 with the amendment attached as Exhibit E.

12.3 Patent Prosecution and Maintenance.

A.Solely-owned Patents – The owner of Patents that are owned by only one Party, including without limitation RADIUS Background IP, 3M Background IP, 3M Arising IP, and RADIUS Arising IP, shall have the sole right, at the owning Party's sole cost and expense, to control the preparation, prosecution, and maintenance of such Patents. Nothing in this Section 12.3 requires any Party to file, not file, prosecute, not prosecute, maintain, or not maintain, including without limitation the defense of any oppositions, interferences, reissue proceedings, re-examinations and other post-grant proceedings originating in a patent office, in each case in one or more jurisdictions, any solely owned patents. Each Party hereby waives any claims and causes of action that it may have against the other Party arising from any decision or act of a sole owner of any Patents to file, not file, prosecute, not prosecute, maintain, or not maintain, the solely owned Patents. With respect to 3M Arising IP and RADIUS Arising IP, each party controlling the preparation, prosecution, and maintenance of such IP shall provide the other Party with copies of and a reasonable opportunity to review and comment upon the text of the applications prior to filing to ensure that such

applications do not contain any of the non-filing Party's confidential information Should the non-filing Party request that any such confidential information be removed prior to filing, the filing Party shall unless the non-filing Party agrees in writing that such material may remain in the application.

B.Joint Arising IP -

(i)[*] shall have the first right, at [*] cost and expense, to assume the responsibility for and control the filing, decision not to file, prosecution, decision not to prosecute, maintenance, or decision not to maintain, including without limitation the defense of any oppositions, interferences, reissue proceedings, re-examinations and other post-grant proceedings originating in a patent office, in each case in one or more jurisdictions, of Patents that constitute Joint Arising IP. [*] shall keep [*] sufficiently informed of the progress of the preparation, prosecution, and maintenance of Patents that constitute Joint Arising IP so as provide [*] with a reasonable opportunity to provide input regarding preparation, prosecution, and maintenance of such Patents. [*] shall consider diligently, reasonably and in good faith all input received from [*] regarding such prosecution and maintenance. [*] will provide [*] copies of and a reasonable opportunity to review and comment upon the text of the applications and responses to communications received from the United States Patent and Trademark Office relating to Patents that constitute Joint Arising IP. Within a reasonable time of filing, [*] will provide [*] with a copy of each application for a Patent that constitutes Joint Arising IP as filed, together with notice of its filing date and application number. [*] will keep [*] advised of the status of all material communications, actual and prospective filings or submissions regarding Patents that constitute Joint Arising IP, and will give [*] copies of and a reasonable opportunity to review and comment on any such communications, filings and submissions proposed to be sent to any patent office or judicial body. [*] will reasonably consider in good faith [*] comments on the communications, filings and submission for Patents that constitute Joint Arising IP. [*] will cooperate and assist [*] by executing such documents that may be required for [*] to file, prosecute, or maintain Patents that constitute Joint Arising IP.

(ii)In the event that [*] (a) elects not to assume the responsibility for and control of the preparation, prosecution and maintenance of any Patents that constitute e Joint Arising IP or (b) desires to cease prosecution or maintenance of any Patents that constitute Joint Arising IP, [*] shall provide reasonable prior notice to [*] of such intention to abandon, or in the case of a decision not to prepare or file a Patent that constitute Joint Arising IP, notice of such decision within a reasonable time after the

decision is made (which notice shall, to the extent possible, be given no later than sixty (60) days prior to the next deadline for any action that must be taken with respect to any such Patent that constitute Joint Arising IP in the relevant patent office, but in no case later than sixty (60) days prior to the final deadline to take an action to avoid withdrawal or abandonment of the Patent at issue). In such case, upon [*] written election provided no later than thirty (30) business days after such notice from [*] , [*] shall have the right to assume prosecution and maintenance of such Patents that constitute Joint Arising IP at [*] cost and expense. If [*] does not provide such election within thirty (30) business days after such notice from [*] , [*] may at its sole discretion, continue prosecution and maintenance of such Patent that constitute Joint Arising IP or discontinue prosecution and maintenance of such Patent that constitute Joint Arising IP, in either event at [*] expense.

C.Other jointly-owned IP – The Parties may, by mutual agreement, file, prosecute, or maintain, one or more Patents relating to jointly owned Inventions that are not Joint Arising IP. The parties will work in good faith to reach agreement regarding the mechanism by which such Patents may be filed, prosecuted, maintained, defended or enforced.

12.4 Infringement of Patents by Third Parties.

A.RADIUS IP - In the event that 3M or RADIUS becomes aware of any actual, suspected, threatened, or prospective Competitive Infringement of any RADIUS Arising IP, such Party will notify the other Party promptly, and following such notification, the Parties will confer. RADIUS shall have the sole right, at its sole cost and expense, to control the enforcement of Patents that constitute RADIUS Background IP and RADIUS Arising IP.

B.Joint Arising IP - In the event that 3M or RADIUS becomes aware of any actual, suspected, threatened or prospective Competitive Infringement of any Joint Arising IP, such Party will notify the other Party promptly, and following such notification, the Parties will confer. During the Term, [*] will have the sole right, but not the obligation, to defend any such action or proceeding or bring an infringement action with respect to such infringement at its own expense, in its own name and entirely under its own direction and control, or settle any such action or proceeding by sublicense (including, at [*] sole discretion, granting a sublicense, covenant not to sue or other right with respect to a compound or product). At [*] expense, [*] will reasonably assist [*] in any action or proceeding being defended or prosecuted if so requested, and will be named in or join such action or proceeding if requested by [*] . If [*] elects to be represented by legal counsel, [*] will bear all of [*] related and reasonable legal costs and expenses if [*] is required to be named in or joined in such action or proceeding or is joined in such action or proceeding at [*] request. [*] shall defend,

indemnify and hold [*], its Affiliates, and their respective directors, officers, employees and agents harmless from and against any and all loss or liability for any and all Third Party claims, causes of action, suits, proceedings, losses, damages, fees, fines, penalties, costs and expenses (including without limitation reasonable attorneys' fees) related to [*] reasonable assistance of [*] in any action or proceeding under this Section 12.4B.

C.3M Arising IP – In the event that 3M or RADIUS becomes aware of any actual, suspected, threatened or prospective Competitive Infringement of any 3M Arising IP, such Party will notify the other Party promptly, and following such notification, the Parties will confer. 3M shall have the sole right to decide whether to: (i) control the enforcement of Patents that constitute 3M Arising IP, at its sole cost and expense; or (ii) permit RADIUS to control the enforcement of Patents that constitute 3M Arising IP, at RADIUS's sole cost and expense. For the avoidance of doubt, 3M may, at its sole discretion decide to do neither (i) nor (ii) under this Section 12.4C. In the event that 3M permits RADIUS to control the enforcement of Patents pursuant to clause (ii) of this Section 12.4C, RADIUS shall defend, indemnify and hold 3M, its Affiliates, and their respective directors, officers, employees and agents harmless from and against any and all loss or liability for any and all Third Party claims, causes of action, suits, proceedings, losses, damages, fees, fines, penalties, costs and expenses (including without limitation reasonable attorneys' fees) related to 3M's reasonable assistance of RADIUS in any such action or proceeding.

D.3M shall have the sole right, at its sole cost and expense, to control the enforcement of Patents that constitute 3M Background IP.

E.For purposes of this Section 12.4, "**Competitive Infringement**" means any actual or alleged infringing activity by a Third Party with respect to any claims of any Patents that constitute RADIUS Arising IP, 3M Arising IP or Joint Arising IP as it relates to transdermal, intradermal, or microneedle delivery of Compound, PTH, or PTH Related Protein.

F.Damages - In the event that RADIUS exercises the enforcement rights conferred in this Section 12.4 for Competitive Infringement and recovers any damages, payments or other sums in such action or proceeding or in settlement thereof, such damages or other sums recovered will first be applied to all out-of-pocket costs and expenses incurred by the Parties in connection therewith (including attorney's fees). If such recovery is insufficient to cover all such costs and expenses of both Parties, the Parties will be paid pro-rata in proportion to the total amount of costs and expenses incurred by each Party. If after such reimbursement any funds remain from such damages or other sums recovered, such funds will be shared as follows:

(i)Enforcement of [*];

(ii)Enforcement of Joint Arising IP by [*] under Section 12.4B – [*] percent ([*]%) to RADIUS and [*] percent ([*]%) to 3M; and

(iii)Enforcement of 3M Arising IP by RADIUS under Section 12.4C – [*] percent ([*]%) to RADIUS and [*] percent ([*]%) to 3M.

12.5 Defense and Settlement of Third Party Patent Claims.

A.Notification - Each Party shall promptly notify the other Party in writing if it becomes aware of any allegation or demand by a Third Party that the activity of either of the Parties or their Affiliates or subcontractor or sublicensee in connection with the Manufacture, offering for sale, sale, possession, import, export or transfer of Compound, Applicator, or and portion of the Product infringes or is likely to infringe on a Patent or other right controlled by such Third Party (each such allegation, a "**Patent Claim**").

B.Cooperation – Promptly after notice of a Patent Claim, the Parties shall cooperate in evaluating the merits of such Patent Claim. The Parties shall jointly evaluate or solicit external legal advice concerning, the validity, enforcement, and non-infringement of the Third Party Patent or other right at issue in such Patent Claim and also discuss and analyze possible responses to such Patent Claim. The Parties may mutually agree to procure the right for the Parties to continue to Manufacture, offer for sale, sell, possess, import, export or transfer Product or Applicator, including by securing any Third Party licenses the Parties deem necessary or desirable to procure such right. In addition, the Parties may consider alternative activities that the Parties reasonably believe may mitigate or eliminate the Patent Claim or otherwise modify the Product or Applicator.

C.RADIUS shall control the defense of any Patent Claim related to Compound or Product. All decisions with respect to the response and defense of such Patent Claims shall be made by RADIUS, and RADIUS shall promptly inform 3M of all material developments in connection with the Patent Claim learned by RADIUS.

D.3M shall control, the defense of any Patent Claim related to Patch or Applicator. All decisions with respect to the response and defense of such Patent Claims shall be made by 3M, and 3M shall promptly inform RADIUS of all material developments in connection with the Patent Claim learned by 3M.

E.Neither Party shall enter into any agreement, settlement or voluntary consent judgment concerning any Patent Claim without the prior written consent of the other Party, such consent not to be unreasonably withheld conditioned or delayed.

F.Common Interest Disclosures - With regard to any information or opinions disclosed pursuant to this Agreement by one Party to the other Party regarding the prosecution, maintenance, defense or enforcement of 3M Arising IP, RADIUS

Arising IP or Joint Arising IP, the Parties agree that they have a common legal interest in determining the ownership, scope, validity and/or enforcement of the 3M Arising IP, RADIUS Arising IP or Joint Arising IP, and whether, and to what extent, Third Party Intellectual Property Rights may affect the conduct of the Development, Manufacture and Commercialization of any Product or Applicator, and have a further common legal interest in defending against any actual or prospective Third Party claims based on allegations of misuse or infringement of Intellectual Property Rights relating to the Development, Manufacture or Commercialization of any Product or Applicator. Accordingly, the Parties agree that all such information and materials obtained by the Parties from each other will be used solely for purposes of the Parties' common legal interests with respect to the conduct of this Agreement. All such information and materials will be treated as protected by the attorney-client privilege, the work product privilege, and any other privilege or immunity that may otherwise be applicable. By sharing any such information and materials, neither Party intends to waive or limit any privilege or immunity that may apply to the shared information and materials. No Party will have the authority to waive any privilege or immunity on behalf of the other Party without such other Party's prior written consent, nor will the waiver of privilege or immunity resulting from the conduct of one Party be deemed to apply against any other Party. To the extent that there are any inconsistencies between this Section 12.5F and any other formalized common interest or joint defense agreements between the Parties relating to the subject matter of this Agreement or the Development Agreement, the terms of those common interest or joint defense agreements between the Parties shall govern common interest issues related to the subject matter of this Agreement or the Development Agreement.

12.6 Licenses.

A.Development Licenses

(i)3M Background IP: Development License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates, a royalty-free, non-exclusive, non-transferable (except as set forth in Section 17.3), worldwide license, under 3M Background IP, to permit RADIUS to perform RADIUS' responsibilities under the Development Agreement and this Agreement, including under the Scale-Up Workplan, and to Develop the Product and Applicator in the Territory, and for no other purpose.

(ii)3M Arising IP: Development License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates, a royalty-free, non-exclusive, non-transferable (except as set forth in Section 17.3), worldwide license, under 3M Arising IP, to permit RADIUS to perform RADIUS' responsibilities under the Development Agreement and this Agreement, including under

the Scale-Up Workplan, and to Develop the Product and Applicator in the Territory, and for no other purpose and subject to the exclusivity provisions in Section 12.1.

(iii)RADIUS Development License to 3M - Subject to the terms and conditions of this Agreement, and during the Term, RADIUS hereby grants to 3M and its Affiliates a royalty-free, non-exclusive, non-transferable (except to 3M's Affiliate or in connection with the sale, transfer, or disposal of substantially all of the line of business to which this Agreement pertains), worldwide license under RADIUS Background IP and RADIUS Arising IP, to perform 3M's responsibilities under the Development Agreement and this Agreement, including under the Scale-Up Workplan, and to Develop the Product and Applicator in the Territory, and for no other purpose.

(iv)Joint Arising IP: Development License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates, a royalty-free, exclusive, non-transferable (except as set forth in Section 17.3), worldwide license, under 3M's interest in and to Joint Arising IP, to permit RADIUS to perform RADIUS' responsibilities under the Development Agreement and this Agreement, including under the Scale-Up Workplan, and to Develop the Product and Applicator in the Territory. For the avoidance of doubt, the license under this Section 12.6A(iv) extends only to Development of Product, but for no other purpose and subject to the exclusivity provisions in Section 12.1.

(v)The licenses under this Section 12.6A are sublicensable to bona fide collaborators, such as licenses, sublicensees, contract research organizations and, after a Technology Transfer, contract manufacturing organizations, but only as necessary for the Development of the Product and Applicator.

B.Commercialization Licenses to RADIUS

(i)3M Background IP: Product Commercialization License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates an exclusive (even as to 3M and its Affiliates), royalty-bearing non-transferable (except as set forth in Section 17.3), worldwide, sublicensable (through multiple tiers) license, under 3M Background IP, to Commercialize the Product in the Territory and for no other purpose. For avoidance of doubt, the license granted in this Section 12.6B(i) does not grant any rights to make, have made, sell, offer to sell, use, possess, import, export, transfer, or otherwise dispose of or Commercialize any product other than the Product; 3M does

not grant any license to any product, process, article of manufacture, machine, composition of matter, improvement of any of the foregoing, or any other Intellectual Property Right or Patent except as to the Product, and 3M further specifically reserves all rights except as to the Product.

(ii)3M Background IP: Applicator Commercialization License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates a royalty-free, exclusive (even as to 3M and its Affiliates), non-transferable (except as set forth in Section 17.3), worldwide, sublicensable (through multiple tiers) license, under 3M Background IP, to Commercialize the Applicator in conjunction with the Product in the Territory, and for no other purpose. For avoidance of doubt, the license granted in this Section 12.6B(ii) does not grant any rights to make, have made, sell, offer to sell, use, possess, import, export, transfer, or otherwise dispose of or Commercialize the Applicator by itself or in conjunction with any product other than the Product. 3M specifically reserves the right to commercialize the Applicator by itself, or in conjunction with any product other than to commercialize the Applicator in conjunction with the Product.

(iii)3M Arising IP: Product Commercialization License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates a royalty-bearing, exclusive (even as to 3M and its Affiliates), non-transferable (except as set forth in Section 17.3), worldwide, sublicensable (through multiple tiers) license, under 3M Arising IP, to Commercialize the Product in the Territory and for no other purpose. For avoidance of doubt, the license granted in this Section 12.6B(iii) does not grant any rights to make, have made, sell, offer to sell, use, possess, import, export, transfer, or otherwise dispose of or Commercialize any product other than the Product; 3M does not grant any license to any product, process, article of manufacture, machine, composition of matter, improvement of any of the foregoing, or any other Intellectual Property Right or Patent except as to the Product, and 3M further specifically reserves all rights except as to the Product.

(iv)3M Arising IP: Applicator Commercialization License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates a royalty-free, exclusive (even as to 3M and its Affiliates), non-transferable (except as set forth in Section 17.3), worldwide, sublicensable (through multiple tiers) license, under 3M Arising IP, to Commercialize the Applicator in conjunction with the Product in the Territory, and for no other purpose. For avoidance of doubt, the license granted in this Section 12.6B(iv) does not grant any rights to make, have made, sell, offer to sell, use, possess,

import, export, transfer, or otherwise dispose of or Commercialize the Applicator by itself or in conjunction with any product other than the Product. 3M specifically reserves the right to commercialize the Applicator by itself, or in conjunction with any product other than to commercialize the Applicator in conjunction with the Product.

(v)Joint Arising IP: Commercialization License to RADIUS - Subject to the terms and conditions of this Agreement, and during the Term, 3M hereby grants to RADIUS and its Affiliates, a royalty-free, exclusive, non-transferable (except as set forth in Section 17.3), worldwide license, under 3M's interest in and to Joint Arising IP, to permit RADIUS to perform RADIUS' responsibilities under the Development Agreement and this Agreement, including under the Scale-Up Workplan, and to Commercialize the Product and the Applicator in conjunction with the Product in the Territory. For the avoidance of doubt, the license under this Section 12.6B(v) extends only to Development and Commercialization of Product but for no other purpose.

C.No Implied Rights - No license, sublicense or other right is or will be created or granted hereunder by implication, estoppel or otherwise. Any licenses, sublicenses or rights will be granted only as expressly provided in this Agreement. Neither Party nor any of its Affiliates will use or practice any Inventions or Intellectual Property Rights licensed or provided to such Party or any of its Affiliates outside the scope of or otherwise not in compliance with the rights and licenses granted to such Party and its Affiliates under this Agreement.

13. REPRESENTATIONS AND WARRANTIES

13.1 Each Party represents and warrants to the other that it: (A) has the right to enter into this Agreement; (B) has no obligations to any Third Party which are in conflict with its obligations under this Agreement; (C) has not made nor will it make any commitments to any Third Party or Affiliate that is in conflict with or in derogation of the rights of this Agreement; (D) will observe and comply with all Applicable Law, including with respect to Manufacture and distribution and sale of Product and Applicator; and (E) the person signing this Agreement has the necessary corporate authority to legally bind the applicable Party to the terms set forth herein.

13.2 3M Product and Applicator Warranties – 3M hereby represents and warrants that all Product and Applicator shall: (A) be Manufactured in accordance with, cGMPs; (B) at the time of delivery meet the Specifications for Product or Applicator, as applicable; and (C) not be adulterated or misbranded under the FDCA. 3M shall not be responsible for Product that does not meet Specifications, representations or warranties as a result of the failure of RADIUS supplied Compound to meet the Specifications, representations and warranties established for Compound or if RADIUS has failed to notify 3M of material changes relevant to the Compound pursuant to Section 10.8. RADIUS hereby represents

and warrants that all RADIUS supplied Compound shall at the time of delivery to 3M meet the specifications set forth in the Regulatory Approval for the Compound.

13.3 Good Title – 3M hereby represents and warrants that, at the time 3M makes Product or Applicator available to RADIUS for shipment, 3M has good title to such Product or Applicator.

13.4 RADIUS Product and Applicator Warranties – RADIUS hereby represents and warrants that it shall: (A) handle and transport the Product and Applicator in accordance with Applicable Law, and (B) use, market, promote and sell the Product and Applicator in accordance with Applicable Law.

13.5 No debarment – Neither Party shall use in any capacity the services of any person who has been debarred pursuant to Section 306 of the FDCA (or similar Applicable Laws outside of the U.S.), or who is the subject of a conviction described in such section, and Each Party shall inform the other Party in writing immediately if it or any person who is performing services for such Party hereunder is debarred or is the subject of a conviction described in Section 306 (or similar Applicable Laws outside of the U.S.), or if any action, suit, claim, investigation or legal administrative proceeding is pending or, to such Party's knowledge, is threatened, relating to the debarment of such Party or any person used in any capacity by such Party in connection with its obligations under this Agreement.

13.6 Except as otherwise explicitly set forth herein, each party expressly disclaims to the other party any express or implied warranty related to: (A) the performance or nonperformance of this Agreement; (B) the implied warranties of merchantability and fitness for a particular purpose; (C) any implied warranty arising out of a course of dealing, custom or usage of trade; (D) any representation or warranty of non-infringement of Third Party Intellectual Property; or (E) any other matter or subject arising out of this Agreement.

14. INDEMNIFICATION

14.1 3M Indemnification – Except as provided in Section 14.2, 3M shall defend and indemnify RADIUS, its Affiliates, and their respective directors, officers, employees and agents against and hold it harmless from any and all loss or liability for any and all Third Party claims, causes of action, suits, proceedings, losses, damages, demands, fees, expenses, fines, penalties or costs (including without limitation reasonable attorney's fees, costs and disbursements) to the extent arising out of or resulting from: (A) any breach by 3M or its Affiliates, or subcontractors of any of 3M's representations, warranties and other obligations under Section 13.2, 17.12 or 17.17 of this Agreement; (B) the gross negligence or willful misconduct by 3M or its Affiliates or CMOs or subcontractors or their respective officers, directors, employees, agents or consultants in performing any obligations under this Agreement; and (C) any personal injury or alleged personal injury to any person to the extent that such personal injury results from 3M's breach of 3M's warranty set forth in Section 13.2; provided, however, 3M shall be liable

to the extent and only to the extent such breach resulted in the harm or injury for which RADIUS seeks indemnification.

14.2 RADIUS Indemnification – Except as provided in Section 14.1, RADIUS shall defend, indemnify and hold 3M, its Affiliates, and their respective directors, officers, employees and agents harmless from and against any and all loss or liability for any and all Third Party claims, causes of action, suits, proceedings, losses, damages, fees, fines, penalties, costs and expenses (including without limitation reasonable attorneys' fees) to the extent arising out of or resulting from: (A) any breach by RADIUS or its Affiliates, or subcontractors of any of RADIUS' representations, warranties and other obligations under Section 13.4, 17.12 or 17.17 of this Agreement; (B) the gross negligence or willful misconduct by RADIUS or its Affiliates or their respective officers, directors, employees, agents or consultants in performing any obligations under this Agreement; (C) a claim, allegation, or demand by a Third Party that the Applicator, Compound, or any portion of the Product infringes any patent or other Intellectual Property Right of such Third Party and (D) RADIUS' or its agent's handling, transportation, marketing, sale, distribution, use, or testing of Product or Applicator.

14.3 Control of Defense – 3M and RADIUS shall promptly notify each other of any claims for which it seeks indemnification under Sections 14.1 and 14.2 and shall cooperate with the indemnifying Party, at the indemnifying Party's expense, in connection with the defense and settlement of such claims. The indemnifying Party shall be entitled to control the defense and settlement of any such claim; provided that the indemnifying Party may not settle the claim without the indemnified Party's prior written consent in the event such settlement materially adversely impacts, or would reasonably be expected to materially adversely impact, the indemnified Party's rights or obligations. Further, the indemnified Party shall have the right to participate (but not control) and be represented in any suit or action by advisory counsel of its selection at its own expense.

15. LIMITED REMEDY AND LIMITATION OF LIABILITY

15.1 Except as set forth in Section 14.1, RADIUS' sole remedy for supply of Product or Applicator that fails to conform to the warranty provided by 3M in Section 13.2 (except in cases that such failure to conform results from use of Compound that, at the time of delivery to 3M and/or a CMO (other than due to the actions or inactions of 3M and/or CMO), fails to conform to the Specifications for the Compound), including with respect to Product or Applicator that has a Latent Defect, shall be at RADIUS' sole election: (A) replacement (provided that replacement is in full lot quantities) or refund of such Product; and (B) refund for the actual cost of Compound used in such Product.

15.2 EXCEPT IN CONNECTION WITH SECTION 12.1 AND TO THE EXTENT A PARTY IS REQUIRED UNDER SECTION 14.1 OR 14.2 TO INDEMNIFY THE OTHER PARTY IN RESPECT OF SUCH DAMAGES CLAIMED BY A THIRD PARTY AND EXCEPT FOR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF ITS CONFIDENTIALITY OBLIGATIONS UNDER ARTICLE 11 OR IN THE CASE OF

FRAUD, GROSS NEGLIGENCE OR WILLFUL MISCONDUCT AND NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, UNDER NO CIRCUMSTANCES SHALL EITHER PARTY BE LIABLE TO ANY OTHER PARTY FOR ANY KIND OF LOST PROFITS, REVENUE OR BUSINESS, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES. THIS LIMITATION ON LIABILITY APPLIES TO ANY CLAIM REGARDLESS OF THE THEORY OF LAW, INCLUDING, BUT NOT LIMITED TO, BREACH OF CONTRACT, BREACH OF WARRANTY, TORT OR STRICT LIABILITY.

16. INSURANCE

16.1 During the Term, RADIUS and 3M will maintain a liability insurance program (which may include self-insurance, premium and excess policies) covering such risks (including, but not limited to products liability and contractual liability) as are appropriate in accordance with the sound business practice and each Party's obligations under this Agreement, including, but not limited to, at least the following liability coverage and limits:

PRODUCT LIABILITY: $10,000,000 per occurrence and in the annual aggregate; and

GENERAL LIABILITY: $10,000,000 per occurrence and in the annual aggregate.

3M shall also maintain errors and omissions insurance coverage with liability coverage of at least $10,000,000 per occurrence and in the annual aggregate.

Each party shall also maintain any mandatory insurance, including but not limited to, workers compensation coverage, in accordance with Applicable Law.

At the request of one Party, the other Party shall provide the other with a certificate of insurance evidencing the existence of the necessary coverage on an annual basis. Failure to request such a certificate will not relieve the Party of its obligations under this Section 16.

17. MISCELLANEOUS

17.1 Events of Excused Performance - Neither RADIUS nor 3M shall be considered in default or be liable to the other Party for any delay in performance or non-performance caused by circumstances beyond the reasonable control of such Party, including but not limited to acts of God, explosion, fire, flood, earthquake, war whether declared or not, accident, labor strike or labor disturbances, sabotage, transportation strike or interference, order or decrees of any court or action of governmental authority (each, a "**Force Majeure Event**"); provided, however, that the Party seeking relief under this Section 17.1 shall immediately notify the other Party as soon as practicable and provided diligent efforts are made to resume performance as quickly as possible. If the Force Majeure Event shall

continue unabated for ninety (90) days, then RADIUS shall have the right to (A) initiate Technology Transfer pursuant to Section 6.8 at RADIUS' expense and (B) terminate this Agreement immediately.

17.2 Notices – Except as otherwise provided herein, any notice or other communications sent or delivered hereunder shall be in writing and shall be effective if hand delivered or if sent by express delivery service or certified or registered mail, postage prepaid or by facsimile transmission.

If to 3M to:
3M Drug Delivery Systems Division of 3M Company
3M Center Building 275-3E-10
St. Paul, MN 55144-1000
Attention: Division President
With a copy to Legal Affairs at the above address.

If to RADIUS to:
RADIUS HEALTH, INC.
950 Winter Street
Waltham, MA 02451
Attention: General Counsel

or to such address as a Party shall hereafter designate by notice to the other Party. A notice shall be deemed to have been given on the date of delivery to the Party.

17.3 Assignability – This Agreement may be assigned by either Party by prior written consent of the other Party, provided however that such consent will not be unreasonably withheld, conditioned or delayed. Either Party may assign this Agreement to an Affiliate of that Party, without prior written consent of the other Party, provided that such an Affiliate assignee has the ability to perform the rights and duties of the assignor. Further, each Party may, without prior written consent of the other Party, assign this Agreement and its rights and obligations under this Agreement to a successor in connection with the merger, acquisition, consolidation, change in control, or reorganization of such Party or sale of all or substantially all of such Party's assets or that portion of its business to which this Agreement relates. Any assignment or attempted assignment in violation of this Section 17.3 will be void.

17.4 Waiver – The failure of either Party at any time to require performance by the other Party of any provision of this Agreement shall not affect the right of such aggrieved Party to require future performance of that provision, and any waiver by either Party of any breach of any provision of this Agreement must be in writing to be effective and shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement.

17.5 Relationship of Parties – Nothing contained in this Agreement shall create a partnership or joint venture between the Parties, and the Parties shall at all times be considered independent contractors. Except as specifically provided herein, neither of the Parties shall hold itself out as the agent of the other, nor shall either of the Parties incur any indebtedness or obligation in the name of, or which shall be binding on the other, without the prior written consent of the other. No employees or agents of either Party shall be deemed employees or agents of the other Party.

17.6 Governing Law/Venue – The Parties consent to and this Agreement shall be construed the Delaware law, excluding any conflicts or choice of law provision to the contrary.

17.7 3M and RADIUS agree to resolve any questions, claims, disputes, or litigation in any way arising from or relating to this Agreement, its negotiation, performance, termination, alleged breach, or any rights or remedies sought therefore (collectively and individually, a "dispute"), exclusively by the following sequence of dispute resolution methods:

A. in-person, good faith negotiations between senior executives of the Parties authorized to fully resolve the matter over a period of not less than thirty (30) days; and

B. to the extent any dispute is not fully resolved pursuant to Section 17.7A, and as a last resort only, either Party may commence litigation in a federal court of competent jurisdiction in Delaware.

17.8 In the event of litigation, each Party consents to the exclusive and personal jurisdiction of the specified courts. Nothing in this Section 17.8 shall preclude a Party from taking any action reasonably necessary to prevent immediate and irreparable harm to that Party; provided, however, that the Party taking any such action shall do so in the court specified in Section 17.7B and such Party after taking such action remains obligated to resolve the underlying claim or dispute giving rise to such action by means of the dispute resolution methods of Section 17.7.

17.9 Waiver of Jury Trial - IN THE EVENT OF LITIGATION, EACH PARTY, TO THE EXTENT PERMITTED BY APPLICABLE LAW, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ITS RIGHT TO A TRIAL BY JURY IN ANY ACTION OR OTHER LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT AND THE TRANSACTIONS IT CONTEMPLATES. THIS WAIVER APPLIES TO ANY ACTION OR LEGAL PROCEEDING, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE.

17.10 Entire Agreement/Interpretation – This Agreement, the Quality Agreement and the Development Agreement constitute the entire understanding of the Parties hereto, and cancel and supersede, all previous agreements between the Parties, with respect to the matters contained herein. In the event of a conflict between this Agreement and any other agreement between the Parties, this Agreement shall prevail. No modification of

this Agreement or terms or conditions hereof shall be binding upon a Party unless approved in writing by an authorized representative of each of the Parties. This Agreement has been prepared jointly and shall not be strictly construed against a Party. For the avoidance of doubt, this Agreement and the transactions contemplated hereby do not amend, restate, supplement or otherwise modify any of the terms or conditions of any other agreement between the Parties, including the Development Agreement.

17.11 Partial Invalidity – In case any one or more of the provisions contained herein shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement, but this Agreement shall be construed as if such invalid, illegal or unenforceable provision or provisions had never been contained herein unless the deletion of such provision or provisions would result in such a material change as to cause completion of the transactions contemplated herein to be impossible or significantly frustrated and provided that the performance required by this Agreement with such clause deleted remains substantially consistent with the intent of the Parties.

17.12 Except as required by Applicable Law and subject to regulatory requirements relating to identification of a manufacturer on Product and Applicator packaging, RADIUS will make no use whatsoever of the 3M name or its trademarks to sell or promote Product and Applicator without the prior written approval of 3M. The decision to grant or withhold such approval is within the sole discretion of 3M. Except as required by Applicable Law, RADIUS will not use or reproduce any of 3M's name or trademarks in any manner without prior written approval of 3M. Except as required by Applicable Law, 3M will not use or reproduce any of RADIUS' name or trademarks in any manner without prior written approval of RADIUS. Any press releases 3M may wish to make with respect to the Product or Applicator or that uses RADIUS' name or trademarks shall be subject to advanced approval by RADIUS. To the extent any press releases RADIUS may wish to make with respect to the Product uses the 3M name or its trademarks, such press releases shall be subject to advanced approval by 3M solely with respect to the use of such 3M name or its trademarks. Either Party may subsequently publicly disclose any information in the same form as previously contained in any approved press release without further approval by the other Party, but for the avoidance of doubt, any public disclosure that includes either Party's name or trademark that is not in the same form as a previously approved disclosure requires the prior written approval of the other Party. Each Party shall use commercially reasonable efforts to seek the other Party's approval of such disclosures with at least five (5) Business Days' notice.

17.13 Headings – The headings of the articles or sections of this Agreement are for the convenience of the Parties only and shall not be deemed a substantive part of this Agreement.

17.14 Execution – This Agreement may be executed by counterparts and by transmission of separately signed signature pages to the other Parties, and if required by either Party, followed by mail of the originals.

17.15 Survivorship – Any of the provisions of this Agreement that are expressed or implied to survive the expiration or termination of this Agreement shall remain in full force and effect pursuant to their terms upon expiration or termination of this Agreement, including without limitation: (A) Sections 4.4A, 4.4C, 12.3B, 12.4B and 12.6 (each of the foregoing Sections pursuant to a Technology Transfer and subject to Section 6.8); (B) Sections 4.4D, 4.4E, 6.4, 6.7, 6.8, 7.10 (to the extent expressly stated therein), 10.5, 10.7, and 12.2; (C) Sections 7.7, 7.8, and 7.9 (each of the foregoing Sections with respect to the final calendar quarter of the Term and sell-off period under the last sentence of this Section 17.15); and (D) Articles 1 (to the extent necessary to give effect to other surviving provision), 11, 13, 14, 15, and 17. All other rights and obligations of the Parties under this Agreement shall cease upon expiration or termination of this Agreement. Upon the early termination of this Agreement (other than as set forth in Section 6.8), RADIUS, its Affiliates and its (sub)licensees may sell any works-in-progress and inventory of Product and/or Applicators that exist as of the effective date of termination or that are delivered to RADIUS post-termination pursuant to Section 6.7, provided that (i) RADIUS makes the applicable royalty payments for Product to 3M (pursuant to Section 7.8), and (ii) RADIUS, its Affiliates and (sub)licensees sell all such Product and/or Applicators within [*] after the effective date of termination.

17.16 Bankruptcy - All licenses and rights to licenses granted under or pursuant to this Agreement by 3M to RADIUS are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the United States Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101(35A) of the Bankruptcy Code. The Parties agree that RADIUS, as a licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code. 3M (in any capacity, including debtor-in-possession) and its successors and assigns (including any trustee) agrees not to interfere with the exercise by RADIUS or its Affiliates of its rights and licenses to such intellectual property in accordance with this Agreement. The foregoing provisions are without prejudice to any rights RADIUS may have arising under the Bankruptcy Code or other Applicable Law.

17.17 Compliance – Each of RADIUS and 3M Company, acting through its Drug Delivery Systems Division, and 3M IPC represents, warrants and covenants that such Party and its Representatives will perform all of such Party's obligations under this Agreement in compliance with all Applicable Law. Each Party further represents and warrants that neither it nor its Representatives will take any action that might cause the other Party to violate any Applicable Law. Each Party will advise the other Party immediately if it learns, or has any reason to know, of: (A) any violation of any Applicable Law by such Party or its Representatives that occurred or may have occurred in performing such Party's obligations under this Agreement; or (B) any failure of such Party or any of its Representatives to comply with such Party's obligations under this Section 17.17.

[*signature page is the next page*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, authorized representatives for each of the Parties hereto have caused this Agreement to be duly executed in duplicate as of the date and year above stated.

ACCEPTED AND AGREED TO:

3M COMPANY

Signed: /s/ Silvia M. Perez

Dated: 02/27/2018

Silvia M. Perez
3M Drug Delivery Systems President and General Manager

3M INNOVATIVE PROPERTIES COMPANY

Signed: /s/ Ted Ringsred

Dated: February 27, 2018

Printed: Ted Ringsred

Title: Secretary

RADIUS HEALTH, INC.

Signed: /s/ Jose Carmona

Dated: February 27, 2018

Printed: Jose Carmona

Title: Chief Financial Officer

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

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Exhibit A
Scale-up Workplan

EXHIBIT A
WORK PLAN SUMMARY

Objective

This work plan covers the development of the ABALOPARATIDE-sMTS drug product from the current configuration through manufacture of Phase III clinical supplies at 3M. [*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit B
CMO Start-up Fees Schedule (Non-Binding Estimate)

[*]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit C
Material Terms of 3M-CMO Contracts with respect to Product and Applicator (batch cancellation fees/early termination fees, etc.)

Agreement with Product CMO (i.e., Patheon):

Termination Fees (for clarity, [*]):

1. If the Product CMO agreement is terminated prior to [*].
2. If the Product CMO agreement is terminated following [*].
3. If the Product CMO agreement is terminated following [*].
4. If the Product CMO agreement is terminated following [*].
5. The termination fees are considered liquidated damages for reduced supply of Product from Patheon to 3M and 3M's customer and will not be considered a penalty.
6. The above fees are in addition to fees associated with refunding Product CMO for [*], and other similar fees associated with the termination or expiration of the Product CMO agreement.

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EXHIBIT D

Pricing ([*])

D.1 "[*]

D.2 The initial supply price for Product as of the Effective Date is based on [*] (the "**Pricing Factors**"). For clarity, the Pricing Factors will not include any cost of capital equipment or depreciation expenses related to any equipment or capital that RADIUS pays for or reimburses 3M for under this Agreement.

D.3 As of the Effective Date, the initial, [*] supply price for the Product (without the Applicator) is as set forth in the table below. For clarity, such [*] supply price is expected to [*] in accordance with the provisions of this Exhibit D based upon (i) finalization of the Pricing Factors and (ii) [*] being responsible for paying the costs of [*] of this Agreement. The initial [*] supply price is based on Ex Works shipping terms (Incoterms 2010).

Annual Volume (Product)	Estimated Price
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]

D.4 RADIUS acknowledges that, as of the Effective Date, 3M has not negotiated or executed a commercial supply agreement for the Applicator. The initial price for the Applicator will be provided to RADIUS within [*] after the execution of the commercial supply agreement with the Applicator CMO and will be based on Ex Works shipping terms (Incoterms 2010) and is expected not to exceed [*] Dollars ($[*]) per unit for volumes greater than [*] units per Calendar Year.

D.5 Promptly following [*] of the [*] for the Product and Applicator, as applicable, (and in any event, within thirty (30) days after the date of each such [*]),[*] will adjust (increase or decrease) the pricing for the Product within the volume based tiers and the pricing for the Applicator, as applicable, solely to the extent necessary for [*] for the Product and/or Applicator, based on [*] in accordance with Section 1.29 of this Agreement. 3M will use Commercially Reasonable Efforts to (a) minimize cost increases for the Product and the Applicator. The [*] adjusted pricing for the Product and Applicator, as applicable, will be used to establish pricing

for the Product and Applicator, as applicable, for the subsequent Calendar Year, based on RADIUS' forecasted volume for such subsequent Calendar Year. Thereafter, no later than [*] of

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

each Calendar Year, [*] and provide written notice to RADIUS of any adjustments (increases or decreases) to the supply price tiers in the case of Product and adjusted price in the case of Applicator ("**Adjusted Prices**"), solely to the extent necessary to [*], as applicable, based on [*] in accordance with Section 1.29 of this Agreement. 3M will reconcile the prices charged to RADIUS during the previous year with the Adjusted Prices considering RADIUS actual volume purchased and issue (i) a report detailing the foregoing reconciliation and (ii) either a credit or an invoice for any deviations from actual amounts invoiced for the Product and Applicator, as applicable, in the prior Calendar Year under the appropriate Adjusted Price for the Product and for the Applicator. The Adjusted Prices for the Product and Applicator, as applicable, based on the foregoing reconciliation process will be implemented beginning in [*] of each Calendar Year.

D.6 The JMC will review and approve proposals to share economics on an equitable basis based on cost-out programs (e.g., if 3M invests resources in a cost-out program for the Product or Applicator, [*] to share the benefits of such cost-out program with RADIUS).

D.7 Prior to the Effective Date, 3M has provided RADIUS with an estimated detailed [*] expected as of the Effective Date for the Product at the various volume tiers. In the event that, prior to First Commercial Sale of the Product, [*]. 3M commits to provide RADIUS with the [*] at the time it is available, and no later than [*].

D. 8 Any adjustments to pricing for Product and Applicator pursuant to this Exhibit D may be audited on behalf of RADIUS in accordance with Section 7.10 (*mutatis mutandis*).

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

EXHIBIT E

Amendment To Development Agreement

- **SIXTH AMENDMENT TO DEVELOPMENT AND CLINICAL SUPPLIES AGREEMENT**

This Sixth Amendment ("**Amendment**") is entered into as of February 27, 2018 by and among 3M Company, a Delaware company, acting through its Drug Delivery Systems Division, having a principal place of business at 3M Center, St. Paul, Minnesota 55144 ("**3M Company**"), and 3M Innovative Properties Company, a Delaware company, having a principal office at 3M Center, St. Paul Minnesota 55144 ("**3M IPC**"), (3M COMPANY and 3M IPC collectively "**3M**"), on the one hand, and Radius Health, Inc., a Delaware company having a principal office at 950 Winter Street, Waltham, MA 02451 (hereinafter "**RADIUS**"), on the other hand, and amends the Development and Clinical Supplies Agreement dated June 19, 2009, as amended by the Amendment dated as of December 31, 2009, the Second Amendment dated as of September 16, 2010, the Third Amendment dated as of September 29, 2010, the Fourth Amendment dated as of March 2, 2011 and the Fifth Amendment dated as of November 30, 2012 (hereinafter, the "**Agreement**"). Capitalized terms used in this Amendment and not defined herein are used with the meanings ascribed to them in the Agreement.

RECITALS:

WHEREAS, the Parties have entered into a Scale-Up and Commercial Supply Agreement on February 27, 2018 (the "**Commercial Supply Agreement**"); and

WHEREAS, the Parties desire to enter into this Amendment to extend the term of the Agreement and to amend the intellectual property provisions of the Agreement.

NOW, THEREFORE, in consideration of the Recitals (which are incorporated herein) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree to amend the Agreement as follows:

1. Article 7 (Intellectual Property) shall be deleted, and the terms and conditions set forth in Article 12 of the Commercial Supply Agreement are hereby incorporated by reference (*mutatis mutandis*) and shall be effective as if fully set forth herein. Article 1 of the Agreement shall be amended to add the relevant defined terms from Article 1 of the Commercial Supply Agreement that are used in Article 12 of the Commercial Supply Agreement (*mutatis mutandis*) and shall be effective as if fully set forth herein. For clarity, the Parties acknowledge and agree that all of the intellectual property provisions (including, without limitation, definitions, inventorship, allocation of ownership, prosecution and enforcement rights) in the Agreement shall be construed, and the respective rights of the Parties shall be determined, in accordance with Article 12 of the Commercial Supply Agreement (*mutatis mutandis*).

2. Section 11.1 shall be deleted and replaced in its entirety as follows:

11.1 The Agreement shall become effective on the Effective Date, and unless earlier terminated pursuant to this Article 11, shall remain in effect until the tenth (10^{th}) anniversary of the Effective Date (the "**Initial Term**"). Upon the expiration of the Initial Term, this Agreement will automatically renew for successive additional one (1) year terms (collectively with the Initial Term, the "**Term**") until the earliest of (a) the expiration or termination of the Commercial Supply Agreement, (b) the mutual written agreement of the Parties, or (c) prior written notice by a Party to the other Party at least ninety (90) days prior to the end of the then-current Term that such Party declines to extend the Term.

3. Section 12.8 shall be deleted and replaced in its entirety as follows:

- 12.8 Notices – Except as otherwise provided herein, any notice or other communications sent or delivered hereunder shall be in writing and shall be effective if hand delivered or if sent by express delivery service or certified or registered mail, postage prepaid, or by facsimile transmission.

If to 3M to:
3M Drug Delivery Systems Division of 3M Company
3M Center Building 275-3E-10
St. Paul, MN 55144-1000
Attention: Division President
With a copy to Legal Affairs at the above address.

If to RADIUS to:
RADIUS HEALTH, INC.
950 Winter Street
Waltham, MA 02451
Attention: General Counsel

or to such address as a Party shall hereafter designate by notice to the other Party. A notice shall be deemed to have been given on the date of delivery to the Party.

4. Except to the extent expressly amended by this Amendment, all of the terms, provisions and conditions of the Agreement are hereby ratified and confirmed and shall remain in full force and effect. The term "Agreement", as used in the Agreement, shall henceforth be deemed to be a reference to the Agreement as amended by this Amendment.

5. This Amendment may be executed in counterparts, each of which will be deemed an original with all such counterparts together constituting one instrument.

[remainder of this page intentionally left blank]

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be duly executed as of the date set forth above.

3M COMPANY

Signed: __
Printed: __
Title: __

3M INNOVATIVE PROPERTIES COMPANY

Signed: __
Printed: __
Title: __

RADIUS HEALTH, INC.

Signed: __
Printed: __
Title: __

[*] Certain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions.

Exhibit 10.2

SECOND AMENDMENT TO LEASE

SECOND AMENDMENT TO LEASE dated as of this 22nd day of April, 2016 (the "**Second Amendment**") by and between BP BAY COLONY LLC, a Delaware limited liability company ("**Landlord**"), and RADIUS HEALTH, INC., a Delaware corporation ("**Tenant**").

RECITALS

By Lease dated May 14, 2014 (the "**Original Lease**"), Landlord did lease to Tenant, and Tenant did hire and lease from Landlord, certain premises containing approximately 8,490 rentable square feet (referred to in the Original Lease as the "Rentable Floor Area of the Premises") of space located on the first (1st) (referred to in the Original Lease as the "Premises" and hereinafter sometimes referred to as the "**Initial Premises**") of the building known and numbered as 950 Winter Street, Waltham, Massachusetts (the "**Building**").

By First Amendment to Lease dated as of September 9, 2015 (the "**First Amendment**"), Tenant (i) leased from Landlord an additional 8,176 square feet of rentable square feet of space (referred to in the First Amendment as the "Rentable Floor Area of the Expansion Premises 1") located on the first (1st) floor of the Building, which space is shown on Exhibit A attached to such First Amendment (referred to in the First Amendment as the "Expansion Premises 1"), (ii) leased from Landlord an additional 10,542 square feet of rentable square feet of space (referred to in the First Amendment as the "Rentable Floor Area of the Expansion Premises 2") located on the first (1st) floor of the Building, which space is shown on Exhibit B attached to such First Amendment (referred to in the First Amendment as the "Expansion Premises 2"), and (iii) extended the Term of the Lease, upon all of the same terms and conditions set forth in the Original Lease except as set forth in the First Amendment.

Landlord and Tenant have agreed to increase the size of Expansion Premises 1 by 432 square feet and the parties are entering into this Second Amendment to set forth the same.

NOW THEREFORE, in consideration of One Dollar ($1.00) and other good and valuable consideration in hand this date paid by each of the parties to the other, the receipt and sufficiency of which are hereby severally acknowledged, and in further consideration of the mutual promises herein contained, Landlord and Tenant hereby agree to and with each other as follows:

1. Revised Expansion1 Premises

Expansion Premises 1 is hereby enlarged to include an additional 432 square feet of rentable floor area so that the Rentable Floor Area of Expansion Premises 1 shall now be 8,608 square feet as shown on Exhibit A attached hereto (such Exhibit A shall replace Exhibit A attached to the First Amendment). As of the Expansion Premises 1 Commencement Date, the Premises (as defined in the Original Lease) shall include Expansion Premises 1 and the Rentable Floor Area of the Premises (as defined in the Original Lease) shall increase by 8,608 rentable square feet.

2. Annual Fixed Rent for Expansion Premises 1

Section 3(B) of the First Amendment is deleted in its entirety and replaced with the following:

> Commencing on the Expansion Premises 1 Commencement Date, Annual Fixed Rent with respect to Expansion Premises 1 shall be payable as follows:

Rent Year:	Rate PSF:	Annual Rate:
1:	$36.00	$309,888.00
2:	$37.00	$318,496.00
3:	$38.00	$327,104.00
4:	$39.00	$335,712.00
5:	$40.00	$344,320.00

3. Parking

The first sentence of Section 7 of the First Amendment is hereby deleted and replaced with the following:

> Upon the occurrence of the Expansion Premises 1 Commencement Date, the Number of Parking Spaces shall be increased by twenty-five (25).

4. Defined Terms. Except as otherwise expressly provided herein, all capitalized terms used herein without definition shall have the same meanings as are set forth in the Original Lease.

5. Ratification of Lease. Except as herein amended and as amended by the First Amendment, the Original Lease shall remain unchanged and in full force and effect. All references to the "Lease" shall be deemed to be references to the Original Lease, as previously and as amended by this Second Amendment.

6. Authority. Each of Landlord and Tenant hereby represents and warrants to the other that all necessary action has been taken to enter this Second Amendment and that the person signing this Second Amendment on its behalf has been duly authorized to do so.

7. Counterparts. This Second Amendment may be executed in counterparts, and such counterparts together shall constitute but one original of the Second Amendment. Each counterpart shall be equally admissible in evidence, and each original shall fully bind each party who has executed it. Provided it is accompanied by the final version of this Second Amendment (including all exhibits, if any), an executed signature page of this Second Amendment delivered by facsimile or as a PDF or a similar attachment to an email shall constitute effective delivery of this Second Amendment by the party so delivering the same for all purposes with the same force and effect as the delivery of an executed original counterpart.

--SIGNATURE PAGE FOLLOWS--

EXECUTED as of the date and year first above written.

WITNESS:

LANDLORD:

BP BAY COLONY LLC, a Delaware limited liability company

By: BP BAY COLONY HOLDINGS LLC, a Delaware limited liability company, its sole member

By: BOSTON PROPERTIES LIMITED PARTNERSHIP, a Delaware limited partnership, its member

By: BOSTON PROPERTIES, INC., a Delaware corporation, its general partner

/s/ BP Properties, Inc.

By: /s/ Bryan J. Koop
Name: Bryan J. Koop
Title: SVP, Regional Manager

TENANT:

WITNESS: /s/ Brent Hatzis-Schoch

RADIUS HEALTH, INC., a Delaware corporation

By: /s/ B. Nicholas Harvey
Name: B. Nicholas Harvey
Title: CFO

Exhibit 31.1

CERTIFICATIONS

I, Jesper Hoeiland, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Radius Health, 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(s) 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.

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

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

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

Date: May 10, 2018

/s/ Jesper Hoeiland

Jesper Hoeiland

President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Jose Carmona, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Radius Health, 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(s) 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.

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

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

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

Date: May 10, 2018

/s/ Jose Carmona

Jose Carmona

Chief Financial Officer

Exhibit 32.1

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

Each of Jesper Høiland and Jose Carmona hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, in his capacity as President and Chief Executive Officer (principal executive officer) and Chief Financial Officer (principal financial officer), respectively, of Radius Health, Inc. (the "Company"), that, to his knowledge, the Quarterly Report of the Company on Form 10-Q for the period ended March 31, 2018 as filed with the Securities and Exchange Commission (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 10, 2018

By: /s/ Jesper Hoeiland
Jesper Hoeiland

President and Chief Executive Officer

Date: May 10, 2018

By: /s/ Jose Carmona
Jose Carmona
Chief Financial Officer

This written statement is being furnished to the Securities and Exchange Commission as an exhibit to the Report, and "accompanies" such Report to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Report to which it relates), notwithstanding any general incorporation language contained in such filing. A signed original of this statement has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.