Radius Health, Inc. Form S-3 September 02, 2014

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As filed with the Securities and Exchange Commission on September 2, 2014

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

RADIUS HEALTH, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

80-0145 732

(I.R.S. Employer Identification Number)

950 Winter Street Waltham, Massachusetts 02451 (617) 551-4700

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Robert E. Ward
President and Chief Executive Officer
Radius Health, Inc.
950 Winter Street
Waltham, Massachusetts 02451
(617) 551-4700

(Address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Peter N. Handrinos B. Shayne Kennedy Latham & Watkins LLP John Hancock Tower 200 Clarendon Street Boston, Massachusetts 02116 (617) 948-6000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. o

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. ý

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective on filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. o

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

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

Large accelerated filer o

Accelerated filer o

Non-accelerated filer o

(Do not check if a smaller reporting company ý smaller reporting company)

CALCULATION OF REGISTRATION FEE

	Title of each class of securities to be registered	Amount to be registered/proposed maximum offering price per unit/ proposed maximum aggregate offering price	Amount of registration fee
Common Stock		(1)(2)	
Preferred Stock		(1)(2)	
Warrants		(1)	
Units		(1)	
Total		\$150,000,000(3)	\$19,320(4)

- (1) An unspecified number of securities is being registered as may from time to time be offered at unspecified prices.
- (2)
 Includes rights to acquire common stock or preferred stock of the Company under any shareholder rights plan then in effect, if applicable under the terms of any such plan.
- Estimated solely for the purpose of calculating the registration fee. No separate consideration will be received for shares of common stock that are issued upon conversion of preferred stock or upon exercise of common stock warrants registered hereunder. The aggregate maximum offering price of all securities issued pursuant to this registration statement will not exceed \$150,000,000.
- (4) The registration fee has been calculated in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated September 2, 2014.

PROSPECTUS

Radius Health, Inc.

\$150,000,000

Common Stock Preferred Stock Warrants Units

We may offer and sell up to \$150,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities.

Each time we offer and sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. The supplement may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled "About this Prospectus" and "Plan of Distribution" for more information. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE "RISK FACTORS" ON PAGE 5 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our common stock is listed on The NASDAQ Global Market under the symbol "RDUS." On August 29, 2014, the last reported sale price of our common stock on The NASDAQ Global Market was \$13.68 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is

, 2014.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a "shelf" registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to a total dollar amount of \$150,000,000 as described in this prospectus. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the heading "Where You Can Find More Information; Incorporation by Reference."

We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates.

When we refer to "Radius," "we," "our," "us" and the "Company" in this prospectus, we mean Radius Health, Inc. and its consolidated subsidiaries, unless otherwise specified. When we refer to "you," we mean the holders of the applicable series of securities.

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WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Section of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is http://www.sec.gov.

Our website address is www.radiuspharm.com. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

Incorporation by Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or replaces that statement.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the "Exchange Act" in this prospectus, between the date of this prospectus and the termination of the offering of the securities described in this prospectus. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed "filed" with the SEC, including our Compensation Committee report and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

Our Annual Report on Form 10-K for the year ended December 31, 2013, filed with the SEC on February 26, 2014, as amended by Amendment No. 1 to Annual Report on Form 10-K/A for the year ended December 31, 2013, filed with the SEC on April 3, 2014.

Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014, filed with the SEC on May 14, 2014, and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, filed with the SEC on August 12, 2014.

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Our Current Reports on Form 8-K filed with the SEC on January 7, 2014, January 8, 2014, February 3, 2014, February 11, 2014, February 21, 2014, February 28, 2014, March 10, 2014, April 1, 2014, April 30, 2014, May 20, 2014, June 2, 2014, June 13, 2014 and July 11, 2014.

The description of our Common Stock contained in our Registration Statement on Form 8-A, dated and filed with the SEC on May 2, 2014, and any amendment or report filed with the SEC for the purpose of updating the description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents) by writing or telephoning us at the following address:

Radius Health, Inc. 950 Winter St. Waltham, MA 02451 (617) 551-4700 Attention: Investor Relations

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus and any accompanying prospectus supplement.

THE COMPANY

We are a science-driven biopharmaceutical company focused on developing novel differentiated therapeutics for patients with osteoporosis as well as other serious endocrine-mediated diseases. Our lead product candidate is abaloparatide (BA058), a bone anabolic for the treatment of osteoporosis delivered via subcutaneous injection, which we refer to as Abaloparatide-SC. We are currently in Phase 3 development of Abaloparatide-SC and expect to announce top-line data from this study in late 2014. If the results are positive, we plan to submit a new drug application, or NDA, in the United States, and a marketing authorization application, or MAA, in Europe, in mid-2015. We hold worldwide commercialization rights to Abaloparatide-SC, other than in Japan, and with a favorable regulatory outcome, we anticipate our first commercial sales of Abaloparatide-SC will take place in 2016. We are leveraging our investment in Abaloparatide-SC to develop Abaloparatide-TD. We expect this line extension will provide improved patient convenience by enabling administration of abaloparatide through a short-wear-time transdermal patch. We have recently completed a successful Phase 2 proof of concept study of Abaloparatide-TD.

Our current clinical product portfolio also includes a novel oral agent, RAD1901, a selective estrogen receptor down-regulator/degrader, or SERD. We are developing RAD1901 at higher doses, for the treatment of metastatic breast cancer, including breast cancer brain metastases, or BCBM, and intend to advance its development with the initiation of two Phase 1 clinical trials, including a maximum tolerated dose study that has commenced patient screening, and a Phase 1b clinical trial in metastatic breast cancer, which is expected to commence in late 2014. We expect that patients enrolled in the Phase 1b clinical trial will include patients with metastatic breast cancer and patients with metastatic breast cancer that has spread to the central nervous system. The precise population will be defined in the study protocol and determined in conjunction with our investigators. At low doses, RAD1901 acts as a selective estrogen-receptor modulator, or SERM. Low-dose RAD1901 has shown efficacy for the treatment of vasomotor symptoms such as hot flashes in a successful Phase 2 proof of concept study.

We were incorporated in Delaware on February 4, 2008 under the name MPM Acquisition Corp. In May 2011, we entered into a reverse merger transaction, or the Merger, with our predecessor, Radius Health, Inc., a Delaware corporation formed on October 3, 2003, or the Former Operating Company. Pursuant to the Merger, the Former Operating Company became a wholly-owned subsidiary of ours. Immediately following the Merger, we merged the Former Operating Company with and into us, and we assumed the business of the Former Operating Company and changed our name to "Radius Health, Inc."

Our principal executive offices are located at 950 Winter Street, Waltham, Massachusetts 02451, and our telephone number is (617) 551-4700. Our website address is *www.radiuspharm.com*. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus.

RISK FACTORS

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference in this prospectus and any prospectus supplement or free writing prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical fact included in this prospectus that address activities, events or developments that we expect, believe or anticipate will or may occur in the future are forward-looking statements including, in particular, the statements about our plans, objectives, strategies and prospects regarding, among other things, our financial condition, operating results and business.

We have identified some of these forward-looking statements with words like "believe," "may," "will," "should," "could," "expect," "intend," "plan," "predict," "anticipate," "estimate," "continue" or other words and terms of similar meaning and the use of future dates. These forward-looking statements are based on current expectations about future events affecting us and are subject to uncertainties and factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control and could cause our actual results to differ materially from those matters expressed or implied by our forward-looking statements. Forward-looking statements are only predictions or statements of current plans and can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties, including the risks described under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2013, which is incorporated herein by reference in its entirety, any amendment or update thereto reflected in subsequent filings with the SEC, and all other annual, quarterly and other reports that we file with the SEC after the date of this prospectus and that also are incorporated herein by reference. Such risks and uncertainties are not exclusive and further information concerning us and our business, including factors that potentially could materially affect our financial results or condition, may emerge from time to time. We assume no obligation to update, amend or clarify forward-looking statements to reflect actual results or changes in factors or assumptions affecting such forward-looking statements, except as otherwise required by law. We advise you, however, to consult any further disclosures we make on related subjects in our future annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K we file with or furnish to the SEC.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities as set forth in the applicable prospectus supplement.

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SELECTED FINANCIAL DATA

You should read the following selected financial data together with our financial statements and the related notes contained in Item 8 of Part II of our Annual Report on Form 10-K/A for the fiscal year ended December 31, 2013 and our financial statements and the related notes contained in Item 1 of Part I of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, which are incorporated by reference into this prospectus, except that share and per share information for the periods ended December 31, 2013, 2012, 2011, 2010 and 2009 have been revised to reflect the one-for-2.28 reverse stock split for our outstanding shares of common stock effective April 24, 2014. The selected data in this section is not intended to replace the consolidated financial statements included in our Annual Report on Form 10-K/A, except that share and per share information for the periods ended December 31, 2013, 2012, 2011, 2010 and 2009 have been revised to reflect the one-for-2.28 reverse stock split.

We have derived the statements of operations data for each of the three years ended December 31, 2011, 2012 and 2013 and the balance sheet data as of December 31, 2012 and 2013 from the audited financial statements contained in Item 8 of Part II of our Annual Report on Form 10-K/A for the year ended December 31, 2013. The selected balance sheet data as of December 31, 2009, 2010 and 2011 and the statement of operations data for the years ended December 31, 2009 and 2010 has been derived from the audited financial statements for such years not included in our Annual Report on Form 10-K/A for the year ended December 31, 2013. The consolidated statement of operations data set forth below for the six months ended June 30, 2014 and the consolidated balance sheet data as of June 30, 2014 have been derived from our financial statements included in Item 1 of Part I of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, which is incorporated by reference into this prospectus.

The financial information set forth below for the years ended December 31, 2009, 2010 and 2011 have been recast to reflect the adoption of Accounting Standards Update No. 2011-05, Presentation of Comprehensive Income.

The historical financial information set forth below may not be indicative of our future performance and should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our historical financial statements and notes to those statements included in Item 7 of Part II and Item 8 of Part II, respectively, of our Annual Report on Form 10-K/A for the year ended December 31, 2013, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our historical financial statements and notes to those statements included in Item 2 of Part I and Item 1 of Part I, respectively, of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, and any amendment or update thereto reflected in subsequent filings with the SEC, and all other annual, quarterly and other reports that we file with the SEC after the date of this prospectus and that also are incorporated herein by reference.

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Statement of Operations and Comprehensive Loss Data		2013	Year Et 2012	201	1	· 31, 2010	2009	Six Mont Ended Jun 2014	e 30, 2013
D			(1	n thous	sands)			(unaudite	ed)
Revenue:	_	_		_	_	_		_	
Option fee	\$	\$		\$	\$	\$	1,616 \$	\$	
Operating expenses:									
Research and development		60,536	54,961		5,179	11,692	14,519	20,335	33,527
General and administrative		6,829	9,469	5	5,330	3,630	2,668	5,209	3,022
Restructuring						217			
Loss from operations		(67,365)	(64,430)	(41	1,509)	(15,539)	(15,571)	(25,544)	(36,549)
Other income (expense):									
Other income (expense), net		9,085	(2,095)		(236)	824	(7)	(709)	10,072
Interest (expense) income, net		(2,410)	(2,603)		(731)	85	489	(844)	(1,340)
Net loss		(60,690)	(69,128)	(42	2,476)	(14,630)	(15,089)	(27,097)	(27,817)
Other comprehensive loss, net of tax:			/=-			(10)	(0.2.2)		_
Unrealized (loss) gain from available-for-sale securities			(5)		8	(18)	(232)	1	3
Comprehensive loss	\$	(60,690) \$	(69,133)	\$ (42	2,468) \$	(14,648) \$	(15,321) \$	(27,096) \$	(27,814
Net (loss) earnings attributable to common stockholders	\$	(78,161) \$	(83,120)	\$	113 \$	(26,773) \$	(26,494) \$	(36,097) \$	(35,767)
(Loss) earnings per share basic	\$	(203.91) \$	(225.71)	\$	0.51 \$	(190.20) \$	(188.52) \$	(9.11) \$	(93.89)
(Loss) earnings per share diluted	\$	(203.91) \$	(225.71)	\$	0.06 \$	(190.20) \$	(188.52) \$	(9.11) \$	(93.89)
Weighted average shares basic Weighted average shares diluted		383,310 383,310	368,261 368,261	219 1,774	9,254 4,935	140,764 140,764	140,537 140,537	3,962,559 3,962,559	380,942 380,942
ance Sheet Data		201	3	A 2012	20	cember 31, 011	2010	2009	June 30 2014
					(in the	usands)			(unaudit

	As of December 31,						J	une 30,			
Balance Sheet Data		2013		2012		2011	2010		2009		2014
	(in thousands)							(ur	audited)		
Cash and cash equivalents	\$	12,303	\$	18,653	\$	25,128 \$	10,582	\$	7,896	\$	48,371
Marketable securities				4,000		31,580	7,969)	23,826		30,650
Working capital		(22,675)		8,026		56,607	15,448		29,882		59,735
Total assets		12,758		25,300		63,637	18,969)	32,084		81,130

Total liabilities	37,257	55,312	26,589	3,385	1,989	41,382
Total convertible preferred stock and redeemable convertible preferred						
stock	252,802	170,649	156,658	143,836	131,694	
Total liabilities, convertible preferred stock, redeemable convertible						
preferred stock and stockholders' deficit	12,758	25,300	63,637	18,969	32,084	81,130
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RATIO OF EARNINGS TO FIXED CHARGES AND PREFERRED SHARE DIVIDENDS

The following table sets forth the historical ratios of earnings to fixed charges and preferred share dividends for Radius and its consolidated subsidiaries for the periods indicated.

	Year Er	nded Dece	mber 31,		Six Months Ended
2009	2010	2011	2012	2013	June 30, 2014

Ratio of earnings (loss) to fixed charges(1)

Ratio of earnings (loss) to combined fixed charges and preferred share dividends(2)

- Earnings were inadequate to cover fixed charges for the years ended December 31, 2009, 2010, 2011, 2012 and 2013 by \$15.1 million, \$14.6 million, \$42.5 million, \$69.1 million and \$60.7 million, respectively, and for the six months ended June 30, 2014, by \$27.1 million.
- Earnings were inadequate to cover fixed charges and preferred dividends for the years ended December 31, 2009, 2010, 2011, 2012 and 2013 by \$15.1 million, \$14.6 million, \$53.4 million, \$83.1 million and \$101.3 million, respectively, and for the six months ended June 30, 2014, by \$46.2 million.

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DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 200,000,000 shares of common stock, par value \$.0001 per share, and 10,000,000 shares of preferred stock, par value \$.0001 per share. The following description of our capital stock and provisions of our restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to our restated certificate of incorporation and amended and restated bylaws. We have filed copies of these documents with the SEC as exhibits to our registration statement of which this prospectus forms a part.

Common Stock

As of August 12, 2014, there were 29,746,629 shares of our common stock outstanding.

Each holder of our common stock is entitled to one vote for each share held on all matters submitted to a vote of stockholders. Our stockholders do not have cumulative voting rights. Accordingly, the holders of a majority of the voting shares are able to elect all of the directors. Subject to preferential dividend rights of any series of preferred stock that we may designate and issue in the future, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds. In the event of our liquidation or dissolution, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock. Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Our board of directors has the authority, without further action by our stockholders, to issue shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control of our company or other corporate action. No shares of preferred stock are currently outstanding, and we have no present plan to issue any shares of preferred stock.

Options and Warrants

As of August 12, 2014, we had outstanding options to purchase an aggregate of 2,459,533 shares of common stock with a weighted average exercise price of \$6.98 per share and warrants to purchase an aggregate of 1,379,787 shares of our common stock at a weighted average exercise price of \$13.97 per share.

Registration Rights

As of August 29, 2014, holders of 17,176,394 shares of our common stock were entitled to the following rights with respect to the registration of such shares for public resale under the Securities Act pursuant to a fifth amended and restated stockholders' agreement by and among us and certain of our

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stockholders. The registration of shares of common stock as a result of the following rights being exercised would enable holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective.

Demand Registration Rights

At any time beginning on December 2, 2014, which is 180 days following the effective date of the registration statement relating to the initial public offering of our common stock, the holders of at least 30% of the registrable securities, as defined under the stockholders' agreement, have the right to demand that we file a registration statement to register all or a portion of their shares, subject to specified exceptions. If we are eligible to file a registration statement on Form S-3, the holders of at least 10% of the registrable securities, as defined under our stockholders' agreement, have the right to demand that we file a registration statement on Form S-3 so long as the aggregate offering price of the securities to be sold under the registration statement on Form S-3 is at least \$10,000,000, net of underwriting discounts and commissions, and subject to specified exceptions.

Piggyback Registration Rights

If we register any securities for public sale, holders of registrable securities, as defined under our stockholders' agreement, are entitled to written notice of the registration and will have the right to include their shares in the registration statement, subject to customary exceptions. The underwriters of any offering will have the right to limit the number of shares having registration rights to be included in the registration statement.

Expenses of Registration

Generally, we are required to bear all registration expenses incurred in connection with the demand and piggyback registrations described above, other than underwriting discounts and commissions.

Expiration of Registration Rights

The demand and piggyback registration rights discussed above will terminate if all of a holder's registrable securities may be sold without restriction under Rule 144 of the Securities Act or, if earlier, on June 30, 2017.

Anti-Takeover Provisions

Our restated certificate of incorporation provides for our board of directors to be divided into three classes, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors. Our restated certificate of incorporation and amended and restated bylaws provide that all stockholder action must be effected at a duly called meeting of stockholders and not by a consent in writing, and that only our board of directors, chairman of the board, chief executive officer or president (in the absence of a chief executive officer) may call a special meeting of stockholders.

Our restated certificate of incorporation requires a two-thirds stockholder vote for the amendment, repeal or modification of certain provisions of our restated certificate of incorporation and amended and restated bylaws relating to the classification of our board of directors, the requirement that stockholder actions be effected at a duly called meeting, and the designated parties entitled to call a special meeting of the stockholders. The combination of the classification of our board of directors, the lack of cumulative voting and the two-thirds stockholder voting requirements make it more difficult for

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our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Because our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

Our restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative form, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a claim of breach of a fiduciary duty or other wrongdoing by any of our directors, officers, employees or agents to us or our stockholders, creditors or other of constituents; (3) any action asserting a claim against us arising pursuant to any provision of the General Corporation Law of the State of Delaware or our certificate of incorporation or bylaws; (4) any action to interpret, apply, enforce or determine the validity of our certificate of incorporation or bylaws; or (5) any action asserting a claim governed by the internal affairs doctrine. Our restated certificate of incorporation also provides that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock will be deemed to have notice of and to have consented to this choice of forum provision. It is possible that a court of law could rule that the choice of forum provision contained in our restated certificate of incorporation is inapplicable or unenforceable if it is challenged in a proceeding or otherwise.

These provisions may have the effect of deterring hostile takeovers or delaying changes in our control or management. These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. These provisions may also have the effect of preventing changes in our management.

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

if, before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested holder;

if, upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

if, on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

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In general, Section 203 defines business combination to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or

the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or is an affiliate or associate of the corporation and within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Exchange Listing

Our common stock is listed on The NASDAQ Global Market under the symbol "RDUS."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Wells Fargo Bank, N.A.

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DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. The following summary of material provisions of the warrants and warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;

the designation, stated value and terms (including, without limitation, liquidation, dividend, conversion and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock;

the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;

the date, if any, on and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;

the terms of any rights to redeem or call the warrants;

the date on which the right to exercise the warrants will commence and the date on which the right will expire;

United States Federal income tax consequences applicable to the warrants; and

any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

to vote, consent or receive dividends;

receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or

exercise any rights as stockholders of Radius.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify

in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

A holder of warrant certificates may exchange them for new warrant certificates of different denominations, present them for registration of transfer and exercise them at the corporate trust office

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of the warrant agent or any other office indicated in the applicable prospectus supplement. Until any warrants to purchase debt securities are exercised, the holder of the warrants will not have any rights of holders of the debt securities that can be purchased upon exercise, including any rights to receive payments of principal, premium or interest on the underlying debt securities or to enforce covenants in the applicable indenture. Until any warrants to purchase common stock or preferred stock are exercised, the holders of the warrants will not have any rights of holders of the underlying common stock or preferred stock, including any rights to receive dividends or payments upon any liquidation, dissolution or winding up on the common stock or preferred stock, if any.

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DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

the title of the series of units:

the die of the series of units,
identification and description of the separate constituent securities comprising the units;
the price or prices at which the units will be issued;
the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
a discussion of certain United States federal income tax considerations applicable to the units; and
any other terms of the units and their constituent securities.

GLOBAL SECURITIES

Book-Entry, Delivery and Form

Unless we indicate differently in a prospectus supplement, the securities initially will be issued in book-entry form and represented by one or more global securities. The global securities will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, as depositary, or DTC, and registered in the name of Cede & Co., the nominee of DTC. Unless and until it is exchanged for individual certificates evidencing securities under the limited circumstances described below, a global security may not be transferred except as a whole by the depositary to its nominee or by the nominee to the depositary, or by the depositary or its nominee to a successor depositary or to a nominee of the successor depositary.

DTC has advised us that it is:

- a limited-purpose trust company organized under the New York Banking Law;
- a "banking organization" within the meaning of the New York Banking Law;
- a member of the Federal Reserve System;
- a "clearing corporation" within the meaning of the New York Uniform Commercial Code; and
- a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC holds securities that its participants deposit with DTC. DTC also facilitates the settlement among its participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants' accounts, thereby eliminating the need for physical movement of securities certificates. "Direct participants" in DTC include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations and other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, which we sometimes refer to as indirect participants, that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of securities under the DTC system must be made by or through direct participants, which will receive a credit for the securities on DTC's records. The ownership interest of the actual purchaser of a security, which we sometimes refer to as a beneficial owner, is in turn recorded on the direct and indirect participants' records. Beneficial owners of securities will not receive written confirmation from DTC of their purchases. However, beneficial owners are expected to receive written confirmations providing details of their transactions, as well as periodic statements of their holdings, from the direct or indirect participants through which they purchased securities. Transfers of ownership interests in global securities are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in the global securities, except under the limited circumstances described below.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC will be registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of securities with DTC and their registration in the name of Cede & Co. or such other nominee will not change the beneficial ownership of the securities. DTC has no knowledge of the actual beneficial owners of the securities. DTC's records reflect only the identity of the direct participants to whose accounts the securities are credited.

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which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

So long as the securities are in book-entry form, you will receive payments and may transfer securities only through the facilities of the depositary and its direct and indirect participants. We will maintain an office or agency in the location specified in the prospectus supplement for the applicable securities, where notices and demands in respect of the securities and the indenture may be delivered to us and where certificated securities may be surrendered for payment, registration of transfer or exchange.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any legal requirements in effect from time to time.

Redemption notices will be sent to DTC. If less than all of the securities of a particular series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in the securities of such series to be redeemed.

Neither DTC nor Cede & Co. (or such other DTC nominee) will consent or vote with respect to the securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. to those direct participants to whose accounts the securities of such series are credited on the record date, identified in a listing attached to the omnibus proxy.

So long as securities are in book-entry form, we will make payments on those securities to the depositary or its nominee, as the registered owner of such securities, by wire transfer of immediately available funds. If securities are issued in definitive certificated form under the limited circumstances described below, we will have the option of making payments by check mailed to the addresses of the persons entitled to payment or by wire transfer to bank accounts in the United States designated in writing to the applicable trustee or other designated party at least 15 days before the applicable payment date by the persons entitled to payment, unless a shorter period is satisfactory to the applicable trustee or other designated party.

Redemption proceeds, distributions and dividend payments on the securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us on the payment date in accordance with their respective holdings shown on DTC records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in "street name." Those payments will be the responsibility of participants and not of DTC or us, subject to any statutory or regulatory requirements in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is our responsibility, disbursement of payments to direct participants is the responsibility of DTC, and disbursement of payments to the beneficial owners is the responsibility of direct and indirect participants.

Except under the limited circumstances described below, purchasers of securities will not be entitled to have securities registered in their names and will not receive physical delivery of securities. Accordingly, each beneficial owner must rely on the procedures of DTC and its participants to exercise any rights under the securities and the indenture.

The laws of some jurisdictions may require that some purchasers of securities take physical delivery of securities in definitive form. Those laws may impair the ability to transfer or pledge beneficial interests in securities.

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DTC may discontinue providing its services as securities depositary with respect to the securities at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depositary is not obtained, securities certificates are required to be printed and delivered.

As noted above, beneficial owners of a particular series of securities generally will not receive certificates representing their ownership interests in those securities. However, if:

DTC notifies us that it is unwilling or unable to continue as a depositary for the global security or securities representing such series of securities or if DTC ceases to be a clearing agency registered under the Exchange Act at a time when it is required to be registered and a successor depositary is not appointed within 90 days of the notification to us or of our becoming aware of DTC's ceasing to be so registered, as the case may be;

we determine, in our sole discretion, not to have such securities represented by one or more global securities; or

an Event of Default has occurred and is continuing with respect to such series of securities,

we will prepare and deliver certificates for such securities in exchange for beneficial interests in the global securities. Any beneficial interest in a global security that is exchangeable under the circumstances described in the preceding sentence will be exchangeable for securities in definitive certificated form registered in the names that the depositary directs. It is expected that these directions will be based upon directions received by the depositary from its participants with respect to ownership of beneficial interests in the global securities.

We have obtained the information in this section and elsewhere in this prospectus concerning DTC and DTC's book-entry system from sources that are believed to be reliable, but we take no responsibility for the accuracy of this information.

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

at a fixed price or prices, which may be changed;
at market prices prevailing at the time of sale;
at prices related to such prevailing market prices; or
at negotiated prices.

Each time that we sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Any common stock will be listed on The NASDAQ Global Market, but any other securities may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making

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purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

If indicated in the applicable prospectus supplement, underwriters or other persons acting as agents may be authorized to solicit offers by institutions or other suitable purchasers to purchase the securities at the public offering price set forth in the prospectus supplement, pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in the prospectus supplement. These purchasers may include, among others, commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions. Delayed delivery contracts will be subject to the condition that the purchase of the securities covered by the delayed delivery contracts will not at the time of delivery be prohibited under the laws of any jurisdiction in the United States to which the purchaser is subject. The underwriters and agents will not have any responsibility with respect to the validity or performance of these contracts.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

In compliance with the guidelines of the Financial Industry Regulatory Authority, Inc., or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate proceeds of the offering.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

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LEGAL MATTERS

Latham & Watkins LLP will pass upon certain legal matters relating to the issuance and sale of the securities offered hereby on behalf of Radius Health, Inc. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The financial statements of Radius Health, Inc. incorporated by reference in Radius Health, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2013 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, incorporated by reference therein, and incorporated herein by reference. Such financial statements are incorporated herein in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following is an estimate of the expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby.

SEC registration fee	\$ 19,320
Fees and expenses of the trustee	\$ (1)
Printing expenses	\$ (1)
Legal fees and expenses	\$ (1)
Accounting fees and expenses	\$ (1)
Miscellaneous	\$ (1)
Total	\$ (1)

(1) These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify its directors and officers from certain expenses in connection with legal proceedings and permits a corporation to include in its charter documents, and in agreements between the corporation and its directors and officers, provisions expanding the scope of indemnification beyond that specifically provided by this section.

The registrant's amended and restated bylaws provide for the indemnification of officers and directors if such persons act in good faith and in a manner reasonably believed to be in and not opposed to the registrant's best interest, and, with respect to any criminal action or proceeding, such indemnified party had no reason to believe his or her conduct was unlawful.

In addition, the registrant has entered into separate indemnification agreements with the registrant's directors and executive officers which would require the registrant, among other things, to indemnify them against certain liabilities which may arise by reason of their status or service (other than liabilities arising from willful misconduct of a culpable nature). The indemnification provisions in the registrant's amended and restated bylaws and the indemnification agreements entered into between the registrant and the registrant's directors and executive officers may be sufficiently broad to permit indemnification of the registrant's directors and executive officers for liabilities (including reimbursement of expenses incurred) arising under the Securities Act. The registrant also intends to maintain director and officer liability insurance, if available on reasonable terms, to insure the registrant's directors and officers against the cost of defense, settlement or payment of a judgment under certain circumstances.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, the registrant, its directors, officers and persons who control the registrant within the meaning of the Securities Act of 1933, as amended, against certain.

Item 16. Exhibits

(a) Exhibits

A list of exhibits filed with this registration statement on Form S-3 is set forth on the Exhibit Index and is incorporated herein by reference.

Item 17. Undertakings

- (a) The undersigned registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii), and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
 - (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - (B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and

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included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided*, *however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communications that is an offer in the offering made by the undersigned registrant to the purchaser.
- (b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, The Commonwealth of Massachusetts, on the 2nd day on September, 2014.

Radius	Health,	Inc.

By:	/s/ ROBERT E. WARD
	Robert E. Ward
	President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Robert E. Ward and B. Nicholas Harvey, or either of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to file and sign any and all amendments, including post-effective amendments and any registration statement for the same offering that is to be effective under Rule 462(b) of the Securities Act, to this registration statement, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitute or substitutes may lawfully do or cause to be done by virtue hereof. This power of attorney shall be governed by and construed with the laws of the State of Delaware and applicable federal securities laws.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons on behalf of the registrant in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE	
/s/ ROBERT E. WARD	President, Chief Executive Officer and Director	Santanilar 2 2014	
Robert E. Ward	(Principal Executive Officer)	September 2, 2014	
/s/ B. NICHOLAS HARVEY	Chief Financial Officer (Principal Accounting and	September 2, 2014	
B. Nicholas Harvey	Financial Officer)	September 2, 2014	
/s/ KURT C. GRAVES	Chairman of the Board of Directors	Santanahan 2, 2014	
Kurt C. Graves	Chairman of the Board of Directors	September 2, 2014	
/s/ ALAN H. AUERBACH	D'	S 4 1 2 2014	
Alan H. Auerbach	Director	September 2, 2014	

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SIGNATURE	Т	TITLE	DATE	
/s/ ANSBERT K. GADICKE	7.		G	
Ansbert K. Gadicke	Director		September 2, 2014	
/s/ OWEN HUGHES				
Owen Hughes	Director		September 2, 2014	
/s/ MORANA JOVAN-EMBIRICOS				
Morana Jovan-Embiricos	Director		September 2, 2014	
/s/ MARTIN MÜNCHBACH	D.		G	
Martin Münchbach	Director		September 2, 2014	
/s/ ELIZABETH STONER	D'		0	
Elizabeth Stoner	Director	September 2, 2014		

EXHIBIT INDEX

Exhibit Number 1.1*	Description Form of Underwriting Agreement.
3.1	Restated Certificate of Incorporation of Radius Health, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on June 13, 2014).
3.2	Amended and Restated Bylaws of Radius Health, Inc. (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the SEC on June 13, 2014).
4.1*	Form of Warrant.
4.2*	Form of Warrant Agreement.
4.3*	Form of Unit Agreement.
5.1	Opinion of Latham & Watkins LLP.
12.1	Statement Regarding the Computation of Ratio of Earnings to Fixed Charges and Preferred Share Dividends for the Years Ended December 31, 2009, 2010, 2011, 2012 and 2013, and the Six Months Ended June 30, 2014.
23.1	Consent of Latham & Watkins LLP (included in Exhibit 5.1).
23.2	Consent of Ernst & Young LLP, independent registered public accounting firm.
24.1	Powers of Attorney (incorporated by reference to the signature page hereto).

To be filed by amendment or incorporated by reference in connection with the offering of the securities.