



DIVISION OF
CORPORATION FINANCE

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

April 18, 2014

Via E-mail

Mr. Robert E. Ward
Chief Executive Officer
Radius Health, Inc.
21 Broadway, 6th Floor
Cambridge Massachusetts 02139

**Re: Radius Health, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed April 3, 2014
File No. 333-194150
Amendment No. 1 to Form 10-K for Fiscal Year Ended
December 31, 2013
Filed April 3, 2014
File No. 001-35726**

Dear Mr. Ward:

We have reviewed your amended filings and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Summary financial data, page 10

1. We note the table on page 11 is presented as of December 31, 2013 and the third bulleted point to the table states that the automatic conversion of all outstanding shares of convertible preferred stock is given effect as of March 31, 2014. Please advise or revise the date, as applicable.

Use of Proceeds, page 35

2. We note your response to comment 7 in our prior letter dated March 25, 2014 and the disclosure that “the amount and timing of our actual expenditures will depend upon numerous factors, including the results of our ongoing clinical studies and clinical studies that we may commence, feedback from regulatory agencies, the timing of approval of any of our product candidates, the results of any commercialization efforts and other factors. As a result, our management will have broad discretion over the use of the net proceeds from this offering.” The company may reserve the right to change the use of proceeds, provided that such reservation is due to certain contingencies that are specifically discussed and the alternatives to such use in that event are indicated. See Instruction 7 to Item 504 of Regulation S-K.

Research Agreements, page 64

3. We note your response to prior comment 11 of your commitments for the next twelve months. Please also disclose the total amounts of contractual obligations due to Nordic for each of the various agreements in the periods specified. Please provide a tabular format of payments due as follows: less than one year, 1-3 years, 3-5 years and more than 5 years. See Item 303(a)(5) of Regulation S-K.

Index to Financial Statements, page F-1

Balance Sheets, page F-3

4. We note that the prepaid and other non-current assets amounts shown in the pro forma balance sheet have increased by approximately \$3,398,000. Please describe the nature of the change from the historical amount and the basis for including it as an adjustment to the pro forma balance sheet.
5. We note in your response to comment 25 a reference to a proposed 1-for-2.28 reverse stock split of all outstanding shares of your common stock prior to the offering. We also note that this reverse stock split is not included in the list of pro forma equity transactions disclosed in the registration statement. Please note that if the reverse stock split occurs at or prior to effectiveness, it must be presented retrospectively in the historical financial statements. Please tell us how you plan to disclose the split in the registration statement and revise your disclosures accordingly.

9. Convertible Preferred stock, page F-21

6. We note your response to prior comment 22 that the company has performed analysis of the Series A-1, A-2 and A-3 Convertible Preferred Stock and concluded that the embedded conversion feature does not need to be bifurcated and separately accounted for as a derivative as the conversion option is clearly and closely related to the economic characteristics of common equity and in turn, the host contract. We also note that this

preferred stock is entitled to receive 8% dividend rate, has certain mandatory conversion and redemption terms and liquidation preference to common stock. Please provide your analysis of the evaluation of the economic characteristics, risks and terms of the conversion option and the host contract to support your conclusion that the host contract is more akin to an equity host.

Part II

Recent Sales of Unregistered Securities, page II-2

7. We note that the company issued shares of Series B-2 convertible preferred stock and stock purchase warrants to Ipsen Pharma SAS and Brookside Capital Partners Fund, LP on March 14, 2014 and March 28, 2014, respectively, after the company filed its registration statement on February 26, 2014. We also note that the company relied upon Section 4(2) of the Securities Act and Rule 506 for the exemptions from registration. Please revise to clarify the specific section of Rule 506 relied upon for these offers and sales. Also specifically address in more detail the facts relied upon by the company to make the exemptions available. Please see Securities Act Section Compliance and Disclosure Interpretations Question 139.25 for guidance. We may have further comment.

Exhibits

8. We note your response that Exhibits 10.12 and 10.13 were filed in their entirety and we reissue the comment. Please file Exhibits 10.12 and 10.13 in their entirety with your next amendment or advise us as appropriate.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Robert E. Ward
Radius Health, Inc.
April 18, 2014
Page 4

You may contact Brian McAllister at (202) 551-3341 or Nasreen Mohammad, Assistant Chief Accountant at (202) 551-3773 if you have questions regarding comments on the financial statements and related matters. Please contact Erin Wilson at (202) 551-6047 or David Link at (202) 551-3356 with any other questions.

Sincerely,

/s/ David Link for

John Reynolds
Assistant Director