



DIVISION OF  
CORPORATION FINANCE

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

October 25, 2011

Via E-Mail

C. Richard Lyttle, Ph.D., Chief Executive Officer  
Radius Health, Inc.  
201 Broadway, 6<sup>th</sup> Floor  
Cambridge, Massachusetts 02139

**Re: Radius Health, Inc.  
Amendment No. 2 to Registration Statement on Form S-1  
Filed October 6, 2011  
File No. 333-175091  
Form 8-K Supplemental Response  
Filed October 6, 2011  
File No. 000-53173**

Dear Dr. Lyttle:

We have reviewed your amended registration statement and October 6, 2011 supplemental response regarding your Form 8-K 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.

Form S-1/A, filed October 6, 2011

License Agreement Obligations, page 67

1. We partially reissue comment six of our letter dated September 23, 2011. For those license agreements whose expiration is contingent upon the expiration of a patent, please disclose the current duration of the patent, to the extent known.

Security Ownership of Certain Beneficial Owners and Management, page 89

2. We note your revise disclosure in response to comment eleven of our letter dated September 23, 2011 and we reissue the comment. Please list each control persons for each entity listed in the table. In this regard, we note, non-exclusively, footnotes six, seven and eight where Dr. Gadicke is mentioned as sharing investment and voting power.

Selling Shareholders, page 99

3. We note your revised disclosure in response to comment 14 of our letter dated September 23, 2011 and we reissue the comment. Please disclose the control person for each entity listed in the selling shareholders table. In this regard, as a non-exclusive example, we note your disclosure of general partners, as in footnote two, but no disclosure on whether these general partners have sole voting and investment power.

Exhibits

4. We note your response to comment 19 of our letter dated September 23, 2011 that the company “has not included disclosure schedules to Exhibits as they do not provide the investor with any additional information to ascertain or understand the material terms of the agreements” and we reissue the comment. Please note that Item 601(b)(10) of Regulation S-K requires that exhibits be filed in their entirety. Please file Exhibits 4.1, 10.1, 10.2, 10.6, 10.10, 10.11, 10.12, 10.20, 10.21 and 10.26 in their entirety. We also continue to note that Exhibit 10.1 to the Form 8-K filed on April 29, 2011 is missing exhibits, schedules and/or attachments. Please file in its entirety. Please also file Exhibit 10.5 to the Form 10-Q/A filed on September 30, 2011 in its entirety.
5. Please explain the use of the assumption regarding the “legal competence of each individual executing any document” in your legality opinion.

October 6, 2011 Supplemental Response  
Form 8-K

General

6. To the extent applicable, please amend your Form 8-K to comply with the Staff’s comments pertaining to the company’s Form S-1/A, filed with the Commission on October 6, 2011.

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.

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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.

You may contact Brian McAllister at (202) 551-3341 or Nasreen Mohammed 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 Pamela Howell at (202) 551-3357 with any other questions.

Sincerely,

/s/ Pamela Howell  
for

John Reynolds  
Assistant Director