



DIVISION OF
CORPORATION FINANCE

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

November 4, 2011

Via E-Mail

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

Re: Radius Health, Inc.
Amendment No. 3 to Registration Statement on Form S-1
Filed October 28, 2011
File No. 333-175091
Amendment No. 4 to Form 8-K
Filed October 28, 2011
File No. 000-53173

Dear Dr. Lyttle:

We have reviewed your amended registration statement 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 28, 2011

Collaborations and License Agreements, page 39

1. Please revise your Forms S-1 and 8-K to clearly reflect the 5% of net sales royalty disclosed in Exhibit 10.4 and provide the royalty range for the remaining royalty terms that are subject to the confidential treatment request.

Security Ownership of Certain Beneficial Owners and Management, page 89

2. We reissue comment two of our letter dated October 25, 2011. Please disclose the control person(s) for each entity listed in the ownership table. In particular we note footnote 21.

Exhibits

3. We note your response to comment four of our letter dated October 25, 2011. Please file Exhibits 4.1, 10.2, 10.10, 10.11, and 10.26 in their entirety. We also continue to note that, while your exhibit index states that your Agreement and Plan of Merger has been filed with your October 24, 2011 Form 8-K/A, we are unable to locate it. Thus, 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.

Form 8-K/A, filed October 28, 2011

Security Ownership of Certain Beneficial Owners and Management, page 58

4. To the extent applicable, please revise this section to comply with comment two of our letter dated October 25, 2011. In this regard, we note footnotes 15 and 16.

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.

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