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

DIVISION OF
CORPORATION FINANCE

November 20, 2013

Via E-mail
Gerri A. Henwood
President and Chief Executive Officer
Recro Pharma, Inc.
490 Lapp Road
Malvern, PA 19355

Re: Recro Pharma, Inc.
Registration Statement on Form S-1
Filed October 24, 2013
File No. 333-191879

Dear Ms. Henwood:

We have reviewed your 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.

General

1. Please submit all outstanding exhibits as soon as practicable. We may have further comments upon examination of these exhibits.

2. Please provide us proofs of all graphic, visual or photographic information you will provide in the printed prospectus prior to its use, for example in a preliminary prospectus. Please note that we may have comments regarding this material.

3. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications. Similarly, please

supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

Table of Contents

4. Please note that it is not appropriate to state or imply that you do not have liability for the statements in your registration statement. Your statement in the second paragraph appearing after the table of contents that you have not independently verified market and industry data obtained from third parties could imply that you are not taking liability for the statistical and other industry and market data included in your registration statement. In order to eliminate any inference that you are not liable for all of the information in your registration statement, please delete this statement or include a statement specifically accepting liability for these statements.

Prospectus Summary
Overview, pages 1-4

5. Please define the term "alpha-2 adrenergic agonist" the first time it is used in this section and explain the significance of this class of drugs.

Risk Factors
"Additional time may be required to obtain regulatory approval for Dex-IN…," page 15

6. Please expand this risk factor to provide additional information as to what actions you have taken or plan to take to resolve the combination-product issue and provide your estimated timetable for taking such actions. Additionally, if you have had any conversations with or received any input from the FDA on this issue, please provide the related disclosure.

"Our President and Chief Executive Officer….," page 26

7. Please expand this risk factor describing the risks related to possible conflicts of interest that could arise as a result of the association of Ms. Henwood, Mr. Mack, Ms. Myers, and Ms. Nichols with Malvern Consulting Group (MCG). Specifically, please revise to compare the amount of time each individual is expected to devote to the affairs of the registrant to the amount of time each individual is expected to devote to other entities to which MCG provides services or for which MCG has an ownership interest.

"We face potential product liability…," pages 26-27

8. Please expand this risk factor to quantify the amount of your product liability insurance coverage.

Use of Proceeds, page 39

9. Please provide disclosure as to the amount of proceeds that you expect to devote to each separate purpose listed after the first bullet point in this section. Additionally, please list the particular preclinical programs, the particular "Phase III pivotal trials," and the particular "safety clinical trials" to which you will devote proceeds.

10. Please disclose whether you expect the application of proceeds from this offering to enable you to complete the Phase IIb bunionectomy trial or your pivotal Phase III trials. If not, please disclose what the application of these proceeds will allow you to accomplish as to each such partially funded trial.

Business
General

11. We note your planned Phase IIb trial for Dex-IN. Please provide disclosure to clarify whether this trial will be limited to pain management in post-operative bunionectomy patients, as suggested by your Use of Proceeds section on page 39. If you plan to market Dex-IN primarily to treat post-operative bunionectomy patients rather than to a wider range of post-operative patients, please revise your disclosure throughout the prospectus including in your product pipeline tables on pages 2 and 57. Otherwise, if you expect to market the product to a wider patient population, please expand disclosure to clarify why the Phase IIb study is being limited to bunionectomy patients.

Dexmedetomidine Overview, page 58

12. We note your discussion of Dex's history of safe intravenous use as a sedative in surgical settings. Please advise us supplementally whether Dex can be used for analgesic purposes through infusion and/or by injection and whether your license agreement with Orion grants you use of Dex for analgesic purposes exclusively within your geographic territory or, alternately, whether the license agreement would allow Orion or others to compete with you in the post-operative analgesic market via the injection or infusion delivery routes. We may have further comment.

Clinical Trial Overview, page 59

13. We note your disclosure on page 15 of an investigational new drug (IND) application you filed for Dex-IN. Please disclose the date the application was filed and the indication(s) covered by the application. Please additionally disclose whether you have filed INDs for both Dex-SL and Fado, and if so, please disclose the identity of the filer and the date on which any applications were filed. If INDs for these product candidates have not been filed, please explain why.

14. In your discussion of completed clinical trials, you discuss the fact that Dex-IN and Dex-SL resulted in statistically significant improvement in pain symptoms. Please expand your disclosure to discuss how you measure improvement in pain symptoms and what is considered a statistically significant result. Additionally, provide the p-values obtained for all efficacy endpoints in both completed controlled studies. In your discussion, please briefly explain what these p-values measure.

Intellectual Property, pages 61-63

15. We note your disclosure that the composition of matter patents that you have licensed from Orion covering Dex and Fado will expire in January 2014 and October 2016, respectively. Please expand disclosure to indicate what effects, if any, you expect these expirations to have on your ability to protect your intellectual property. Please additionally include such expanded disclosure in the risk factor regarding your intellectual property on page 28.

16. For each of the three patent application families discussed in this section, please clarify in disclosure whether the pending patents, if issued, would offer protection for composition, method of use, process, or some combination thereof.

In-Licensing Arrangements
Orion Corporation, pages 63-64

17. Please provide the royalty rate you may pay to Orion on net sales of Dex expressed as a percentage or range within 10% (e.g., "between 10% and 20%" or "in the twenties"). Please additionally disclose the termination provisions governing the Dex license agreement with Orion and describe the status of the underlying intellectual property should either party terminate prior to the initial term.

18. Please separately disclose all material provisions of the Dex API supply agreement with Orion, including the following:
    - each party's material rights and obligations;
    - provisions governing duration and termination;
    - any applicable minimum purchase requirements; and
    - any other material provisions.

19. Please separately disclose all material provisions of the Fado license agreement with Orion, including the following:
    - Each party's material rights and obligations;
    - Provisions governing duration and termination;
    - the royalty rate you may pay to Orion on net sales of Fado expressed as a percentage or range within 10%; and
    - any other material provisions.

Management
Directors and Executive Officers, pages 74-77

20. Please ensure that you disclose each person's principal occupations and employment during the past five years, including the name and principal business of any corporation or other organization in which such occupations and employment were carried on in accordance with Regulation S-K Item 401. In this regard, we note a press release from September 12, 2012 on Actinium Pharmaceuticals' website indicating Ms. Henwood's appointment as Chief Development Officer of Actinium.

Executive Compensation
Employment Agreements, page 83

21. Please expand disclosure in this section to provide the initial base salaries, the durations, and the renewal terms of each employment agreement with your executive officers. Additionally, please fully explain the terms of these agreements relating to the payment of incentive bonuses.

Director Compensation, page 84

22. Please file a copy of your director compensation plan as an exhibit to your registration statement.

Transactions with Related Persons, pages 84-86

23. Please expand disclosure to separately describe all material terms of both the Master Services Agreement and the Office Services Agreement with MCG in this section. Also, please disclose the amounts paid in each of the last three fiscal years and the interim periods under each agreement. As to the Office Services Agreement, please disclose the location, square footage, and office equipment leased during each period and the nature and amount of any other goods or services provided during each period. As to the Master Consulting Agreement, please disclose the nature and amount of services provided in each period.

Lock-Up Agreements, pages 96-97

24. When available, please file the form of lock-up agreement as an exhibit to your registration statement.

Index to Financial Statements, page F-1

25. Please provide updated financial statements and financial information throughout the filing pursuant to Rule 8-08 of Regulation S-X.

Note 6. Convertible Notes Payable, page F-24

26. Please disclose the terms of the Bridge Notes issued in August, September, and October 2013 and the amount of any related beneficial conversion features.

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.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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 Dana Hartz at (202) 551-3648 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Austin Stephenson at (202) 551-3192 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Justin P. Klein, Esq.
Ballard Spahr LLP