November 27, 2013

Recro Pharma

Via EDGAR
Jeffrey P. Riedler
Assistant Director
Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F. Street, NE
Washington, DC 20549-3561

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

Dear Mr. Riedler:

This letter responds to the comments from the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") set forth in your letter dated November 20, 2013 to Gerri A. Henwood, President and Chief Executive Officer of Recro Pharma, Inc. (the "Company"), regarding the Company's Registration Statement on Form S-1 referenced above (the "Registration Statement"). Simultaneously with the filing of this letter, the Company is submitting via EDGAR Amendment No. 1 to the Registration Statement (the "Amendment"), which responds to the Staff's comments. For your convenience, we have restated the Staff's comments and have provided the Company's response below each comment.

General

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

   RESPONSE:

   As requested, the Company has filed additional exhibits with the Amendment and will file all remaining exhibits as soon as practicable in a subsequent amendment to the Registration Statement.

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.

   RESPONSE:

   The Company has attached as Appendix A to this letter a copy of the graphic information that it plans to include on the inside front cover of the prospectus, which graphic information constitutes all of the graphic, visual or photographic information to be included in the printed preliminary and final prospectus.

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.

RESPONSE:

The Company confirms that it has made no written communications, as defined in Rule 405 under the Securities Act, that it, or anyone authorized to do so on its behalf, has presented or will present to potential investors in reliance on Section 5(d) of the Securities Act. In addition, the Company confirms that it has no research reports about itself 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 its 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.

RESPONSE:

The Company has deleted the statement referenced in the comment above as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

"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.

RESPONSE:

The Company has revised the disclosure as requested.

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

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

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

We supplementally advise the Staff that, following receipt of regulatory approval, Dex could be used for analgesic purposes through infusion and/or injection, although the dosing regimen would be more complex and analgesia without significant sedation may be difficult. Because Dex through infusion and/or injection is not approved by the FDA for use as an analgesic, a drug developer would be required to complete pain trials in post-operative pain subjects, compile and submit an NDA to the FDA, and obtain regulatory approval for this indication prior to marketing Dex for such use. Otherwise, any use of Dex through infusion and/or injection for analgesic purposes would be "off

label," which would subject marketers of the drug to potential fines and may not be reimbursable by third party payors. In addition, we believe there are several complications relating to the use of Dex for analgesic purposes through infusion (metered infusion to the appropriate blood level that can only be confirmed through laboratory testing of the blood concentration) and/or injection that would limit its use as a post-operative pain product.

Under our license agreement with Orion, we do not have the right to develop and commercialize Dex via injection or infusion delivery routes. Accordingly, in the event that Orion or any of its third party licensees develops, completes clinical studies, and obtains regulatory approval for Dex via the injection and/or infusion delivery route, such party would be able to compete with us in the post-operative analgesic market.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company respectfully advises the Staff that it has described each persons' principal occupations and employment during the past five years. The Company submits that the press release from September 12, 2012 on Actinium Pharmaceuticals' website incorrectly described Ms. Henwood as Actinium's Chief Development Officer when, in fact, Ms. Henwood is solely a consultant to Actinium through Malvern Consulting Group, Inc.

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.

RESPONSE:

The Company has revised the disclosure as requested.

Director Compensation, page 84

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

RESPONSE:

The Company has filed a summary of the director compensation arrangements as an exhibit to the Amendment.

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.

RESPONSE:

The Company has revised the disclosure as requested.

Lock-Up Agreements, pages 96-97

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

RESPONSE:

The Company respectfully advises the Staff that the form of lock-up agreement is an exhibit to the underwriting agreement, which will be filed as Exhibit 1.1 to the Registration Statement as soon as practicable.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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.

RESPONSE:

The Company has revised the disclosure as requested.

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In connection with the responses above, the Company acknowledges 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 direct any questions regarding the foregoing to the undersigned at (484) 395-2400 or to Katayun Jaffari at (215) 864-8475.

Sincerely,

/s/ Gerri A. Henwood
Gerri A. Henwood
President and Chief Executive Officer

cc: Justin P. Klein, Esq.
Katayun I. Jaffari, Esq.

Clinical Stage Pipeline

Product	PC	I	II	III	Rights
Dexmedetomidine ("Dex")					WW, except EU, Turkey, CIS
Dex- IN (intranasal)					
Post-operative pain					
Cancer breakthrough pain					
Dex-SL (sublingual)					
Transdermal					
Fadolmidine ("Fado")					WW, except EU, Turkey, CIS
Intrathecal					
Post-operative pain					
Topical					
Neuropathic pain					

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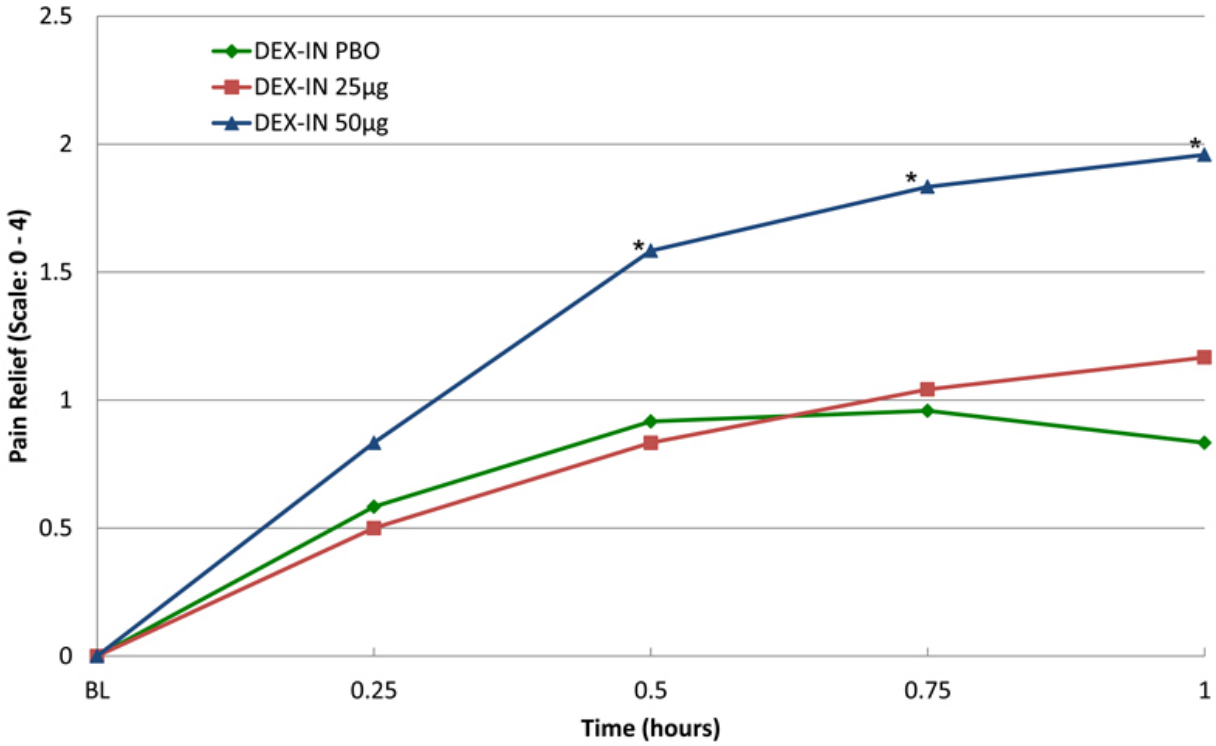
Statistically significant pain relief

(Dex-IN – REC-11-010)



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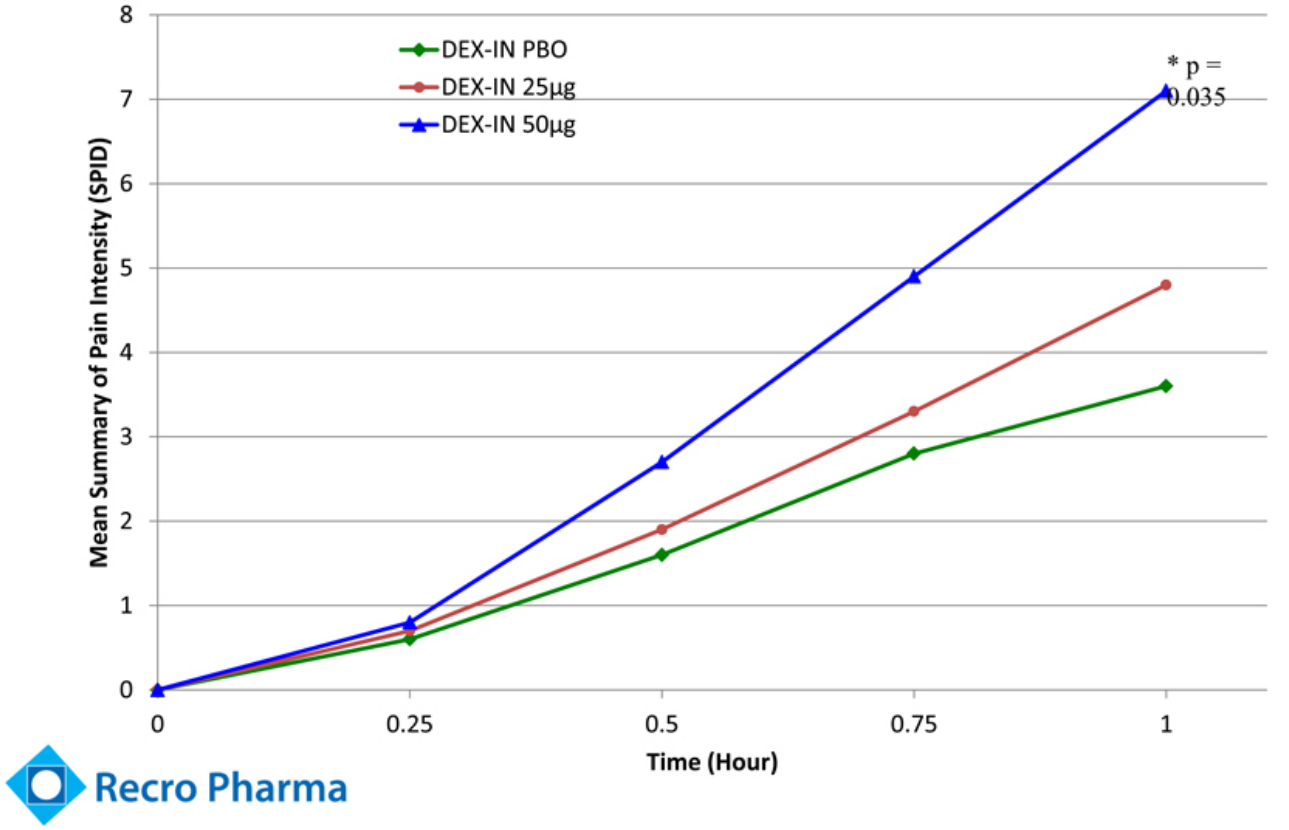
Scale: 0 = No Relief, 4 = Complete Relief

* $p < 0.05$

Significant pain relief over time

(Dex-IN – REC-11-010 – Summary Pain Intensity Differences)



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