December 19, 2013

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.
Amendment No. 1 to a Registration Statement on Form S-1
Filed November 29, 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 December 12, 2013 to Gerri A. Henwood, President and Chief Executive Officer of Recro Pharma, Inc. (the "Company"), regarding Amendment No. 1 to 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. 2 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. We note your response to our prior comment two and the three graphs set forth in Appendix A that you propose to include after the prospectus cover page. These graphs constitute technical information that is not appropriate for the forepart of the prospectus because it is not placed in an appropriate context. Accordingly, please confirm that you will remove these graphs from the inside front cover of the prospectus.

   RESPONSE:

   In response to the Staff's comment, the Company has revised the graphics that it intends to include on the inside front cover of the prospectus by removing the two graphs relating

to pain relief. However, the Company respectfully submits that the graph entitled "Clinical Stage Pipeline," a revised copy of which is attached to this letter as Appendix A, is appropriate for the Company to include on the inside front cover of the prospectus. Such graph is appropriate because it merely illustrates the current developmental stage of the Company's product candidates as set forth further in the Registration Statement and does not include any technical information that requires further contextual information necessary for an understanding of the facts provided in the graph. The Company also advises the Staff that the proposed graph is similar to graphs contained on the inside front cover of other issuers' prospectuses. Accordingly, for the foregoing reasons, the Company believes that the information contained in the graph entitled "Clinical Stage Pipeline" is appropriate for inclusion on the inside front cover of the prospectus and respectfully requests the Staff's permission to do so.

Business Pipeline, page 56

2. We note your response to our prior comment thirteen and reissue the comment in part. Please disclose the identity of the filer of the investigational new drug (IND) applications for Dex. Additionally, we note your disclosure that an IND amendment was filed to change the indication for Dex-IN from cancer-breakthrough pain to post-operative pain. We also note your disclosure that an IND was filed for Dex-SL for the indication of cancer-breakthrough pain. However, we note your pipeline chart on page 57 indicates that Dex-IN is currently in Phase 2 for treatment of cancer breakthrough pain and Dex-SL is in Phase 2 for treatment of chronic pain. Please disclose whether these trials will require you to file separate INDs for both Dex-IN and Dex-SL for the respective indications. If not, please explain how you will conduct Phase 2 trials for Dex-IN and Dex-SL in these indications with active INDs covering only post-operative pain and cancer-breakthrough pain, respectively.

RESPONSE:

The Company has revised the disclosure as requested.

Clinical Trial Overview, page 59

3. We note your inclusion of graphs relating to your clinical trial results on pages 61, 62, and 63. Please revise or replace the graphs on these pages with higher resolution and enlarged graphics and corresponding text to improve legibility. Please additionally revise your reference in these graphs to "Dex-IN PBO" to clearly indicate, if true, that you are referring to a placebo.

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 Justin P. Klein at (215) 864-8606 or Katayun I. 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	Pre-Clinical	Phase I	Phase II	Phase III	Recro Commercial Rights
Dexmedetomidine ("Dex")					Worldwide, except Europe, Turkey, CIS
Dex- IN (intranasal)					
Post-operative pain					
Cancer breakthrough pain					
Dex-SL (sublingual)					
Transdermal					
Fadolmidine ("Fado")					Worldwide, except Europe, Turkey, CIS
Intrathecal					
Post-operative pain					
Topical					
Neuropathic pain					

Recro Pharma