



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

DIVISION OF  
CORPORATION FINANCE

April 9, 2014

Via E-mail

Ms. Karen Corraini  
General Counsel and Corporate Secretary  
Xenon Pharmaceuticals, Inc.  
200 – 3650 Gilmore Way  
Burnaby, British Columbia V5G 4W8, Canada

**Re: Xenon Pharmaceuticals, Inc.  
Amendment No. 2 to Draft Registration Statement on Form S-1  
Submitted March 19, 2014  
CIK No. 0001582313**

Dear Ms. Corraini:

We have reviewed your amended draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Prospectus Summary

Our Programs

Xenon's Proprietary Product Candidates, page 4

1. Please remove the disclosure under the section entitled "Xenon's Proprietary Product Candidates" on pages 4-5. This disclosure is too preliminary to be highlighted in the prospectus summary and is already appropriately located in the Business section. Alternatively, you may replace this disclosure with a single paragraph summarizing your preclinical proprietary product candidates. If you retain the abbreviated disclosure, please revise the caption to insert the word preclinical.

Karen Corraini  
Xenon Pharmaceuticals, Inc.  
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Strategic Alliances, page 104

2. We note your response to our prior comment 5. For each of the agreements with uniQure, Teva, Genentech and Merck, please explain how the royalty term is calculated, including a summary of any exceptions and variations to the term.

TV-45070: A Small Molecule for the Treatment of Pain  
Oral TV-45070 Phase 2 Trial in EM, page 95

3. We note that you have presented the first four paragraphs of this section two times on pages 95 and 96 of your filing. Please delete the repeated paragraphs from page 96.

Principal Shareholders, page 143

4. Please revise your principal shareholders table so that it is as of the latest practicable date rather than as of December 31, 2013.

You may contact Tabatha Akins at (202) 551-3658 or Joel Parker at (202) 551-3615 if you have questions regarding comments on the financial statements and related matters. Please contact Johnny Gharib at (202) 551-3170 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler  
Assistant Director

Via E-mail

Troy Foster, Esq.  
Wilson Sonsini Goodrich & Rosati, P.C.