



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

DIVISION OF  
CORPORATION FINANCE

March 10, 2015

Via E-mail

Armando Anido  
Zynerba Pharmaceuticals, Inc.  
Chairman and Chief Executive Officer  
170 North Radnor Chester Road, Suite 350  
Radnor, Pennsylvania 19087

**Re: Zynerba Pharmaceuticals, Inc.  
Amendment No. 1 to  
Draft Registration Statement on Form S-1  
Submitted on February 20, 2015  
File No.: 377-00903**

Dear Mr. Anido:

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.

Use of Proceeds, page 41

1. We note your revised disclosure in response to our prior comments 5 and 6. Please expand your disclosure to include how far in the clinical development process you expect the proceeds from this offering will enable you to reach for each of the product candidates by indication (e.g. fibromyalgia, chronic cancer pain, refractory epilepsy and osteoarthritis).

Albany College of Pharmacy, page 92

2. We note your revised disclosure to our prior comment 11. Please advise us as to whether any of the Assigned Rights (as defined in the agreement) are now exclusively held by the

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Company. If not, please revise your disclosure to identify the parties who share rights to use the assigned intellectual property with the Company.

Certificate of Incorporation and Bylaws, page 118

3. We note your disclosure on page 118 regarding provisions of your amended and restated certificate of incorporation and amended and restated bylaws, that will be in effect prior to the closing of the offering and which have yet to be filed as an exhibit, stating that the Court of Chancery shall be the sole and exclusive forum for any stockholder to bring an action against the company or any of its directors. Please add a risk factor describing the risks to investors attendant to the exclusive forum provision in your restated certificate of incorporation and bylaws.

You may contact at James Peklenk at (202) 551-3661 or Lisa Vanjoske at (202) 551-3614 if you have questions regarding comments on the financial statements and related matters. Please contact Tara Keating Brooks at (202) 551-8336 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler  
Assistant Director

cc: Via E-mail  
Steven J. Abrams  
Pepper Hamilton LLP