



DIVISION OF
CORPORATION FINANCE

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

September 22, 2015

Via E-mail

Briggs W. Morrison, M.D.
Chief Executive Officer
Syndax Pharmaceuticals, Inc.
400 Totten Pond Road, Suite 110
Waltham, Massachusetts 02451

**Re: Syndax Pharmaceuticals, Inc.
Draft Registration Statement on Form S-1
Submitted August 25, 2015
CIK No. 0001395937**

Dear Dr. Morrison:

We have reviewed your 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 Company, page 1

1. Please explain what an immune checkpoint inhibitor is at your first reference in the summary and describe how such inhibitors work with entinostat as a combination cancer therapy. Please also explain the abbreviations for PD-1 and PDL-1.
2. Please revise your disclosure to include a pipeline table illustrating your clinical development programs for entinostat, the specific indications being pursued, the phase of development, the sponsor, and timing of expected data from trials.
3. We note your disclosure that you are currently evaluating entinostat in combination with Keytruda in a Phase 1b/2 trial. Please revise your disclosure to indicate whether you have commenced patient enrollment for this trial.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Use of Estimates
Stock-Based Compensation and Common Stock Valuation, page 65

4. We may have additional comments on your accounting for equity issuances including stock compensation and beneficial conversion features. Once you have an estimated offering price, please provide us an analysis explaining the reasons for the differences between recent valuations of your common stock leading up to the IPO and the estimated offering price.

Executive and Director Compensation
Summary Compensation Table, page 129

5. Please revise your table to include summary compensation information for your named executive officers for the fiscal year ended December 31, 2013. Please note that Instruction 1 to Item 402(n) requires disclosure of information prior to the last completed fiscal year if such information was previously required in response to a filing requirement. In this respect, we note that your prior Form S-1 filing included 2013 summary compensation information.

Notes to Consolidated Financial Statements

3. Significant Agreements
Kyowa Hakko Kirin Co., Ltd., page F-15

6. Please tell us why you have combined the license, clinical supply and manufacturing obligation and right to access and use materials and data deliverables into one unit of account. Please cite the authoritative literature used to reach your conclusion.

Notes to Condensed Consolidated Financial Statements

8. Convertible Preferred Stock, page F-48

7. Please tell us why you have recorded the Series B-1 preferred stock issued to KHK and the Series C-1 preferred stock at the full redemption value. Please cite the authoritative literature used to reach your conclusion.

Other Comments

8. Please submit all outstanding exhibits as soon as practicable. We may have further comments upon examination of these exhibits.
9. 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.

10. 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.
11. We note that you have requested confidential treatment for certain portions of some of your exhibits. Please be advised that any comments we may have on your application for confidential treatment will be sent to you under separate cover. Our review of your registration statement will not be complete until all comments related to your confidential treatment request have been cleared.

You may contact Frank Wyman at (202) 551-3648 or Joel Parker at (202) 551-3651 if you have questions regarding comments on the financial statements and related matters. Please contact Scot Foley at (202) 551-3383, Bryan Pitko at (202) 551-3603, or me at (202) 551-3675 with any other questions.

Sincerely,

/s/ Bryan J. Pitko for

Suzanne Hayes
Assistant Director

cc: Laura A. Berezin
Jaime L. Chase
Hogan Lovells US LLP
4085 Campbell Avenue, Suite 100
Menlo Park, California 94025