

November 12, 2015

BY EDGAR

Ms. Suzanne Hayes
Assistant Director
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

**Re: Syndax Pharmaceuticals, Inc.
Confidential Draft Registration Statement on Form S-1
Submitted August 25, 2015, and as amended October 2, 2015
CIK No. 0001395937**

Dear Ms. Hayes:

On behalf of Syndax Pharmaceuticals, Inc. (the “**Company**”), this letter is in response to the letter from the Staff (the “**Staff**”) to Briggs W. Morrison, M.D., dated November 2, 2015 (the “**Comment Letter**”), and oral comments provided by the Staff in a conference call on November 5, 2015, each relating to the Company’s correspondence submitted on October 19, 2015 in connection with Amendment No. 1 to the Company’s confidential draft registration statement on Form S-1 (the “**Draft Registration Statement**”), as submitted to the Securities and Exchange Commission (the “**Commission**”) on August 25, 2015, and as amended on October 2, 2015.

The Company will be confidentially submitting Amendment No. 2 to the Company’s Draft Registration Statement (“**Amendment No. 2**”) on or about November 13, 2015, which will include the Company’s financial statements and related financial disclosures for the period ended September 30, 2015. For the convenience of the Staff, upon submission, we will supplementally provide a copy of Amendment No. 2 marked to show changes from Amendment No. 1 to the Draft Registration Statement.

For ease of reference, the Staff’s comment set forth in the Comment Letter is set forth in italic type immediately before the corresponding response submitted on behalf of the Company, and the numbering below corresponds to the numbering in the Comment Letter.

Notes to Condensed Consolidated Financial Statements

8. Convertible Preferred Stock, page F-48

1. *Please refer to prior comment 2. We acknowledge the information provided in your response but continue to have difficulty in understanding the basis for your measurement of the convertible preferred stock at full redemption value. Please provide the following information:*
 - *Clarify whether Board approval for liquidation clause (i) requires a unanimous vote. If so, explain your basis for determining that holders of the preferred stock control this liquidation event; and*

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- Explain your basis for determining that the holders of the preferred stock control the events described in liquidation clauses (ii) and (iii), which appear to be dependent upon an unrelated third party.

The Company respectfully acknowledges the Staff's comment and advises the Staff that the Board approval for liquidation clause (i) does not require a unanimous vote. Liquidation clause (i) requires a majority vote of the Board, of which the preferred stockholders represent five of the nine directors. The Company further advises the Staff that holders of the preferred stock control the events described in liquidation clauses (ii) and (iii) because they hold a majority of the votes of the Board through direct representation on the Board (the "**Prime Preferred**") and, on an as-converted basis, the Prime Preferred also control 96.1% of the voting power of the Company.

In addition, the Company acknowledges the Staff's oral comment received during a telephonic conversation on November 5, 2015 requesting that the Company set forth the basis for its belief that the preferred stockholders will vote together. The Company advises the Staff that because the preferred stockholders have a shared economic interest, they may vote as a group and are therefore in a position to effect a liquidating event if they so choose. In other words, if the preferred stockholders desire to effect a liquidation event, they control the outcome.

* * *

The Company respectfully requests the Staff's assistance in completing the review of this response letter. Please advise us if we can provide any further information or assistance to facilitate your review. If the Staff should have any questions, or would like further information, concerning any of the responses above, please do not hesitate to contact the undersigned at (202) 637-5457 or Laura A. Berezin at (650) 463-4194. We thank you in advance for your attention to the above.

Sincerely,

/s/ Jaime L. Chase

Jaime L. Chase

cc: Briggs W. Morrison, M.D., Syndax Pharmaceuticals, Inc.
Michael A. Metzger, Syndax Pharmaceuticals, Inc.
John S. Pallies, Syndax Pharmaceuticals, Inc.
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