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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4720

October 3, 2015

Nessan Bermingham Ph.D.
President and Chief Executive Officer
Intellia Therapeutics, Inc.
130 Brookline Street, Suite 201
Cambridge, Massachusetts 02139

Re: Intellia Therapeutics, Inc.
Draft Registration Statement on Form S-1
Submitted September 4, 2015
CIK No. 0001652130

Dear Dr. Bermingham:

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

1. Please clarify the meaning of any significant scientific or technical terms the first time they are used in your prospectus in order to ensure that lay readers will understand the disclosure. For example, please define each of the following at their first use:
    - RNA guide sequence
    - Lipid nanoparticle or LNP
    - Hematopoietic stem cells and HSC
    - Viral delivery vectors
    - Genotypes
    - Chimeric antigen receptor
    - Eukaryotic target sequences

Special Note Regarding Forward-Looking Information, page 50

2. Your statement that third party sources do not guaranty the accuracy or completeness of the industry and market data and your statement that you have not independently verified the data may be interpreted as an implied disclaimer. Please revise to clarify that you are liable for this information disclosed in your registration statement.

Determination of the Fair Value of Equity Securities, page 69

3. 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 units of Intellia Therapeutics, LLC and common stock of Intellia Therapeutics, Inc. leading up to the IPO and the estimated offering price.

Strategy, page 76

4. We refer to the fourth paragraph of this section, "Aggressively Pursue In Vivo Liver Indications to Develop Therapeutics Rapidly with Existing Delivery Technology." We note that for your sentinel in vivo indications, you have selected well-validated targets in diseases with significant unmet medical need where there are predictive biomarkers with strong disease correlation. Please revise your prospectus to briefly discuss what, if any, regulatory approvals of concomitant genetic and biomarker diagnostic tests will be necessary in order to advance your product to clinical trials and potential commercialization.

Employment Arrangements with our Named Executive Officers, page 113

5. We refer to your biographical disclosure of your named executive officers and note that you have entered into letter agreements with each of your named executive officers. Please file these agreements as exhibits to your Form S-1, in accordance with Item 601 of regulations S-K.

Caribou Biosciences In-Licensed Intellectual Property, page 87

6. We note your disclosure that your license agreement with Caribou is exclusive, worldwide, royalty-free license for human therapeutic, prophylactic, and palliative uses, except for anti-fungal and anti-microbial uses, of any CRISPR/Cas9-related patents and applications owned, controlled or licensed by Caribou. We also note your risk factor disclosure in the third paragraph of page 37, that you have not yet obtained consent to practice the intellectual property in countries outside the United States from co-owners of patents owned by UC/Vienna that you license from Caribou. Please revise to clarify why UC/Vienna's consent to use the intellectual property in countries outside the United States is necessary.

7. Please expand your disclosure in this section to describe the material patents and patent applications relating to your license agreement with Caribou. In doing so, please provide the following information for the material patents subject to the Caribou in-licenses and any other material patents licensed from Caribou:

    - the type of patent protection such as composition of matter, use or process;
    - identification of which patent rights are exclusive and those that are non-exclusive;
    - a brief description of your "field of use';
    - patent expiration dates or expected expiration dates for patent applications; and
    - identification of the applicable jurisdictions where patents are granted or where patent applications are pending.

8. In this regard, we note that your current patent portfolio disclosure provides some of this information for some of your patents and patent applications but not for others. For example, the discussion of your Caribou patent applications on page 88 describes that the patent applications relate to modified and improved CRISPR/Cas9 systems or components, methods of use and an overall expiration date. In contrast, the discussion of the Caribou sublicenses generally describe rights in sublicenses in your field of use to intellectual property in-licensed by Caribou from The Regents of the University of California and the University of Vienna, as well as intellectual property from Wageningen University. In addition, please disclose the total amounts paid to date pursuant to the License Agreement, if any.

The Regents of the University of California and the University of Vienna IP, page 88

9. We refer to the last sentence of the second paragraph of this section. Please revise your disclosure to expand your discussion of the potential assignment to UC/Vienna to briefly explain the meaning of "complaint" Caribou sublicenses.

Pioneer Hi-Bred International (DuPont Company) IP, page 88
Wageningen University IP, page 89

10. Please revise your disclosure to include the termination date of each of the Caribou agreements with Pioneer Hi-Bred International and Wageningen University IP.

Novartis In-Licensed Intellectual Property, page 89

11. Please revise your disclosure to include the applicable jurisdictions of granted patents or pending patent applications and the type of patent protection (e.g. method if use or composition of matter) for the Novartis patent families.

7. Preferred Units, page F-19

12. Please disclose how you determined the fair value of the Preferred Units issued in July, September and December 2014 and January 2015, and the reason for the changes between the dates.

9. Equity Based Compensation, page F-22

13. Please disclose the method and significant assumptions used to estimate the fair value of compensatory common and incentive units. Refer to ASC 718-10-50-2f.

12. Subsequent Events, page F-26

14. Please disclose your accounting treatment of the Reorganization, and provide us an analysis that supports your accounting treatment with reference to authoritative literature.

15. Please provide pro forma presentation on your balance sheet showing the Reorganization and the issuance of 13,336,601 shares of Series B Preferred Stock that occurred in August 2015 separately from the impact of the conversion of all outstanding shares of preferred stock that will occur upon the closing of the IPO.

Other Comments

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

17. Please confirm that the graphics included in your registration statement are the only graphics you will use in your prospectus. If those are not the only graphics, please provide any additional graphics prior to their use for our review.

18. 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.

You may contact Tabatha McCullom at (202) 551-3658 or James Rosenberg at (202) 551-3679 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) 551-3675 with any other questions.

Sincerely,

/s/ Suzanne Hayes

Suzanne Hayes
Assistant Director

cc: Via E-mail
Arthur R. McGivern, Goodwin Procter LLP
Jose Rivera, Intellia Therapeutics, Inc.