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

DIVISION OF
CORPORATION FINANCE

September 6, 2017

Rene Russo
President and Chief Executive Officer
Arsanis, Inc.
890 Winter Street, Suite 230
Waltham, MA 02451

Re: Arsanis, Inc.
Draft Registration Statement on Form S-1
Submitted August 10, 2017
CIK No. 0001501697

Dear Dr. Russo:

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.

Form DRS filed August 10, 2017

Prospectus Summary
Our Pipeline, page 1

1. We note your inclusion in your pipeline table of ASN300 and ASN200, and your notation that you need external funding for these two programs. We also note your statement on page 16 that you intend to focus your capital resources primarily on the development of ASN100 and to rely primarily on external funding for the development of other product candidates. Since it does not appear that you are currently pursuing these programs, it is premature to include them in a pipeline table. Please revise your table to remove these programs, or alternatively, please explain how you are pursuing them.

Key Advantages of ASN100, page 2

2. Please revise the third bullet in this section to disclose the number of participants treated with the ASN100 combination dose in the Phase 1 trial at doses equivalent to or higher than the dosage being used in the Phase 2 trial. Please add similar disclosure in your Business section in your discussion of the Phase 1 data.

3. We refer to your statement in the fourth bullet that your Phase 2 trial has been designed to demonstrate superiority to placebo, and that you expect any Phase 3 trial will be similarly designed. We also note your statements in the first full paragraph on page 3 and in the second paragraph on page 97 that an independent data monitoring committee will be conducting an analysis of interim results to determine the power of the trial for statistical significance. Please balance your disclosure in this bullet to explain that you are still in the early stages of this trial and to refer to this interim analysis. In addition, in the first full paragraph on page 3, please also disclose how many of the expected 354 patients in the Phase 2 trial have been enrolled as of a recent date.

Risks Associated with Our Business, page 4

4. Please disclose the accumulated deficit in the first bullet, and expand your second bullet to explain that you do not expect this offering to provide sufficient proceeds to allow you to complete a Phase 3 trial for ASN100 (assuming a successful completion of the Phase 2 trial).

5. Please add a bullet to discuss the continued concentration of ownership by management and your principal stockholders after the offering. Please include in this bullet and in the corresponding risk factor beginning on page 50 a discussion of the number of your directors who are affiliated with your principal stockholders.

Implications of Being an Emerging Growth Company, page 5

6. 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.

The Offering, page 6

7. Please disclose what percentage of your total share capital will be held by the public immediately after the offering.

Risk Factors, page 10

8. Please add a risk factor to discuss potential conflicts that exist because the chairman of your board is also the co-founder and CEO of Adimab, the counterparty to your license

agreement for your lead product candidate.

Our existing and any future indebtedness . . ., page 14

9. Please expand your discussion in this risk factor to disclose that borrowings under your loan agreement with SVB are collateralized by a pledge of 65% of the capital stock of your Austrian subsidiary.

Use of Proceeds, page 59

10. Please revise the third bullet in the third paragraph to discuss how much of the proceeds will be used to advance your preclinical program ASN500 for the treatment of RSV.

11. We refer to your statement that you expect you will need additional funding to complete the clinical development of ASN100. Please clarify the amount of such additional funding you will need. Refer to Instruction 3 of Item 504 of Regulation S-K.

Management's Discussion And Analysis of Financial Condition and Results of Operations
Stock-Based Compensation, page 85

12. Please disclose the dates and fair values for the third-party valuations of your common stock during the periods presented. Clarify the estimated common stock price at the time of the June 19, 2017 options issuance and explain to us how it relates to the share price in the April 2017 Series D convertible preferred stock financing. Once you have an estimated offering price or range, please explain to us the reasons for any differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features.

Business, page 90

13. We note your reference to statistical significance in the last paragraph on this page. Please expand your discussion to explain the term and discuss how statistical significance relates to the FDA's evidentiary standards of efficacy.

Our Lead Product Candidate: ASN100, page 93

14. We note your statement in the penultimate paragraph on page 98 that preclinical assays for anti-infective products are generally predictive of clinical efficacy. Please revise your disclosure to explain your rationale of this statement.

Intellectual Property, page 103

15. Please expand your disclosure regarding your patent portfolio to disclose the type of patent protection provided by the patents or patent applications (e.g., composition of matter, method of use). Please also disclose the foreign jurisdictions where you have issued patents or pending applications.

16. We refer to your statement that you co-own two patent families with Max Planck Gesellschaft. Please revise your disclosure to explain whether there is an agreement between you covering the use of these patents.

Collaboration and License Agreements, page 105

17. Please revise your disclosure to discuss the term of each of these agreements.

18. Please revise your description of the Adimab Collaboration Agreement to also discuss the payment terms if you elect to pay through the revenue election method within a ten-point range.

Scientific and Clinical Advisory Boards, page 129

19. Please explain how members of the scientific and clinical advisory boards are compensated.

Management
Board Composition, page 136

20. Please revise your disclosure to explain how your current directors were elected pursuant to the terms of your charter documents currently in place.

Consolidated Financial Statements
Notes to Consolidated Financial Statements
20. Subsequent Events, page F-50

21. You disclose that because the price per share of the Series D preferred stock was lower than the Conversion Price of your Series A-2, Series B and Series C preferred stock, the conversion price of each of these series was amended to $3.7172 per share for Series A-2, $4.7510 per share for Series B and $5.6739 per share for Series C preferred stock. In light of these amendments, please explain in more detail how you accounted for the original instruments from the date of their issuance through the date you amended the conversion terms.

You may contact Ibolya Ignat at 202-551-3636 or Sharon Blume at 202-551-3474 if you have questions regarding comments on the financial statements and related matters. Please contact Dorrie Yale at 202-551-8776 or Christopher Edwards at 202-551-6761 with any other questions.

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Cynthia T. Mazareas