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

DIVISION OF
CORPORATION FINANCE

February 14, 2019

Shoshana Shendelman
President and Chief Executive Officer
Applied Therapeutics, Inc.
340 Madison Avenue
New York, New York 10173

Re: Applied Therapeutics, Inc.
Draft Registration Statement on Form S-1
Submitted January 25, 2019
CIK No. 0001697532

Dear Dr. Shendelman:

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 S-1 filed confidentially on January 25, 2019

Prospectus Summary
Overview, page 1

1. We note the following disclosure on page 1: "We recently completed a Phase 1a/1b clinical trial evaluating AT-001 in 80 patients with type 2 diabetes, in which we observed a favorable safety and tolerability profile." Please remove all statements throughout the filing that present your conclusions regarding the safety or efficacy of your products, as these determinations are within the authority of the FDA or comparable regulatory bodies. With respect to safety, we will not object to statements that your product candidates were well tolerated.

Our Pipeline, page 3

2. Please include a column for Phase 3 in your product pipeline table here and on page 77.

3. Given the early stage of development of your PI3K kinase inhibitors, and limited disclosure you have provided with respect to such product candidates, please provide us with an analysis as to why inclusion of such product candidates in the pipeline table here and on page 77 is appropriate. The table is intended to provide information about your product candidates in development that are reasonably likely to result in an approved product in the foreseeable future.

Implications of Being an Emerging Growth Company, page 4

4. 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 copes of the communications.

Risk Factors
Our amended and restated certificate of incorporation provides ..., page 53

5. Please reconcile the disclosure in this risk factor with the disclosure on page 151 that states, "Our amended and restated certificate of incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act."

Market and Industry Data, page 56

6. We note your statement that the information included in the prospectus from industry publications and other third party sources is reliable and “such information is inherently imprecise.” Please revise to disclose clearly whether you believe such information is reliable.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Funding Requirements, page 69

7. We note that you expect expenses to increase substantially in connection with ongoing activities related to your product candidates. Please amend to disclose the amount of research and development expenses incurred during each period presented and to date by project (i.e., product candidate and target indication). If research and development costs are not maintained by project, disclose that fact and explain why management does not maintain and evaluate research and development costs by project. Provide other quantitative or qualitative disclosure that indicates the amount of the company's resources being used on the project.

Stock-Based Compensation, page 72

8. Once you have an estimated offering price or range, please explain to us how you determined the fair value of common stock underlying your equity issuances and the reasons for any differences between the recent valuations of your common stock leading up to your initial public offering 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
Our Product Candidates
AT-001 for the Treatment of Diabetic Peripheral Neuropathy, page 91

9. We note the disclosure on page 91 that states, "we believe a significant market opportunity for a more effective ARI with a favorable dosing regimen still exists in Japan" and the disclosure on page 92 that states, "We plan to seek a strategic partnership to develop AT-001 for treatment of DPN and advance the program into Phase 3 clinical trial for this indication." Please clarify to what extent your efforts to develop AT-001 for treatment of DPN are focused on the Japanese market, to what extent they are focused on the U.S. market, and to what extent you may be targeting any other markets.

AT-007 for the Treatment of Galactosemia
Clinical Development Plan, page 99

10. We note disclosure on page 99 that states, "Based on feedback from the FDA at our pre-IND meeting ...," "Based on discussions with the FDA ...," and "We believe that a pediatric indication in galactosemia may qualify for the RPD-PRV program." Please advise as to when you expect to know more definitively the FDA's views on this subject and how that may affect your plans.

Exclusive License Agreement with Columbia University, page 101

11. We note disclosure of your requirement to pay a "low to mid double digit percentage" of net sublicensing revenue. Please revise your disclosure to present a range of not more than 10 percentage points.

Certain Relationships and Related Party Transactions
Series B Preferred Stock Financing and Warrants, page 140

12. We note your disclosure on page 141 that, “Each share of Series B Preferred Stock in the table below will automatically convert into one share of our common stock immediately upon the completion of this offering.” Please also disclose whether all outstanding Series B Preferred Stock will convert into common stock upon completion of the offering. Also discuss, as applicable, any terms of the conversion that are contingent upon the offering.

General

13. Please explain the meaning of all abbreviations and defined terms the first time they are used so as to ensure that lay readers will understand the disclosure. For example, the abbreviation cGMP first appears on page 25 but is not explained until later in the document.

14. Please provide us proofs of all graphics, 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.

You may contact Mark Rakip at 202-551-3573 or William Demarest at 202-551-3432 if you have questions regarding comments on the financial statements and related matters. Please contact David Plattner at 202-551-8094 or Tom Kluck at 202-551-3233 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Divakar Gupta, Esq.