

Mail Stop 6010

May 12, 2009

Daniel N. Swisher, Jr.
President and Chief Executive Officer
Sunesis Pharmaceuticals, Inc.
395 Oyster Point Boulevard, Suite 400
South San Francisco, California 94080

**Re: Sunesis Pharmaceuticals, Inc.
Preliminary Proxy Statement
Filed May 8, 2009
File No. 000-51531**

Dear Mr. Swisher:

We have limited our review of your filing to the issue we have addressed in our comment below. Where indicated, we think you should revise your document in response to this comment. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanations.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comment or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Preliminary Proxy Statement filed May 8, 2009

Authorized Shares

1. Please revise your disclosure to describe any plans, arrangements or understandings relating to the issuance of any of the newly authorized shares that would be available as a result of the proposed reverse stock split and the proposed increase in authorized shares. If you have no such plans, arrangements or understandings, please revise your disclosure to so state.

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As appropriate, please amend your filing and respond to this comment within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your response to our comment and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and response to our comment.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comment, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

Please contact Laura Crotty at (202) 551-3563 or Suzanne Hayes, Legal Branch Chief, at (202) 551-3675 with any questions.

Sincerely,

Jeffrey Riedler
Assistant Director