

Via Facsimile and U.S. Mail
Mail Stop 6010

July 18, 2006

Mr. Leslie J. Browne, Ph.D.
President, Chief Executive Officer and Director
Pharmacopeia Drug Discovery, Inc.
P.O. Box 5350
Princeton, NJ 08543-5350

Re: Pharmacopeia Drug Discovery, Inc.
Form 10-K for the year ended December 31, 2005
Form 10-Q for the Quarterly Period Ended March 31, 2006
File No. 000-32801

Dear Mr. Browne:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your document. In our comments, we ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

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 comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-Q for the Period Ended March 31, 2006

Notes to Financial Statements, page 6

2. Significant Collaborations, page 6

Product Development and Commercialization Agreement with GSK, page 7

1. Please provide in a disclosure-type format the certain circumstances under which either party may terminate the agreement and the circumstances under which you would be required to refund a portion of \$15.0 million as well as how the amount

to be repaid is determined in those circumstances. Further explain to us why you feel that revenue recognition is appropriate given the potential for repayment of these amounts. Include any references to the applicable authoritative literature upon which you relied in making this determination.

3. License Agreement with Bristol-Meyers Squibb, page 7

2. Please provide to us in disclosure type format a discussion of the amount of future milestone payments and the events that cause the payment of these amounts related to this agreement.

* * * *

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provide the requested information. Detailed letters greatly facilitate our review. Please file your letter on EDGAR under the form type label CORRESP.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filings include 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 comments, please provide, in your letter, a statement from the company acknowledging that

- the company is responsible for the adequacy and accuracy of the disclosure in the filings;
- 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.

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You may contact Keira Ino, Staff Accountant, at (202) 551-3659 or Oscar Young, Senior Staff Accountant, at (202) 551-3622 if you have questions regarding the comments. In this regard, do not hesitate to contact me at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief
Accountant