November 16, 2006

Mr. Timothy M. Adams
Vice President, Chief Financial Officer and
Treasurer
Cytyc Corporation
250 Campus Drive
Marlborough, MA 01752

**Re:** Cytyc Corporation

Form 10-K for the year ended December 31, 2005

Filed February 22, 2006 and Subsequent Exchange Act Filings

File No. 0-27558

Dear Mr. Adams:

We have reviewed your filings and have the following comment. We have limited our review of your filings to the issue we have addressed in our comment. 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 explanation.

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.

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Form 10-Q as of September 30, 2006

## Condensed Consolidated Statements of Income, page 5

1. In future filings please revise the table of stock-based compensation to remove the caption which currently shows the totals of stock-based compensation presented in the individual income statement line items. Your revised disclosure should conform to the guidance from Section I.C.2 of the Current Accounting and Disclosures Issues in the Division of Corporation Finance. That document is available at <a href="http://www.sec.gov/divisions/corpfin/acctdis120105.pdf">http://www.sec.gov/divisions/corpfin/acctdis120105.pdf</a>.

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As appropriate, please respond to this comment within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response that provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your 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 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.

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You may contact me at (202) 551-3605 or Brian Cascio at (202) 551-3607 if you have questions.

Sincerely,

Gary Todd Review Accountant