



DIVISION OF
CORPORATION FINANCE

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

September 13, 2010

Steven A. Kriegsman
Chief Executive Officer and President
CytRx Corporation
11726 San Vicente Blvd, Suite 650
Los Angeles, California 90049

Re: CytRx Corporation
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed March 15, 2010
Supplemental Response filed August 19, 2010
File No. 000-15327

Dear Mr. Kriegsman:

We have reviewed your response 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 within ten business days by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2009

Annual and Special Bonuses, page 50

1. Please expand your proposed disclosure further to include, on an officer-by-officer basis:
 - the officer's specific contribution to the achievement of your principal business objectives for 2009, as determined by the Compensation Committee; and
 - the officer's job performance rating and an explanation of why the officer's contribution merited that rating;
2. Please also discuss how the Committee factored the comparable company data for similarly situated employees into the amount of incentive bonus received by each officer. In other words, how did the final awards relate to this data? Did the Committee intend to benchmark awards against this data?

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 the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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 responding to our comments, please provide a written 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.

Please contact Michael Rosenthal at 202-551-3674 or me at 202-551-3715 with any other questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director