

*Via Facsimile and U.S. Mail*

November 16, 2010

David Aviezer, Ph.D.  
President and Chief Executive Officer  
Protalix Biotherapeutics, Inc.  
2 Snunit St., Science Park  
POB 455, Carmiel 20100, Israel

**Re: Protalix Biotherapeutics, Inc.  
Form 10-K for the Fiscal Year Ended December 31, 2009  
Filed February 26, 2010  
File No. 001-33357**

Dear Dr. Aviezer:

We have reviewed your response dated October 13, 2010 and have the following additional comments.

Please respond to this letter within ten business days by providing the requested information. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Item 1. Business

1. We note that your responses to comments 1, 3 and 6 state that the annual maintenance fees were granted confidential treatment. It appears that these requests were granted without the benefit of staff review. Please disclose the amounts of these payments or tell us why you believe the amount of these payments is not material information.

Item 11. Executive Compensation

Compensation Discussion and Analysis, page 65

2. We note your response to our prior comment 9. Your response is unclear as you state that the Compensation Committee has established a bonus plan for "certain milestones" and that the Compensation Committee determines awards on a

“discretionary basis.” If the Compensation Committee identified and communicated goals to be used to determine whether a bonus is paid and the amount of the bonus, please disclose all goals set by the Committee, identify which goals were achieved and explain how the level of achievement was used to determine the amount of each officer’s bonus. If there were no predetermined goals and the awards were based solely on the discretion of the Committee and the Committee based its discretion on the achievements identified, please clarify that there were no predetermined goals.

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 Scot Foley at (202) 551-3383, Suzanne Hayes, Branch Chief, at (202) 551-3675 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey Riedler  
Assistant Director