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September 24, 2007

Mr. Greg Belliston
Securities and Exchange Commission
Division of Corporate Finance
Mail Stop 6010
100 F Street, N.E.
Washington, D.C. 20549

Re: Protalix BioTherapeutics, Inc.
Registration Statement on Form S-3
Filed July 24, 2007
File No. 333-144801

Dear Mr. Belliston:

On behalf of our client, Protalix BioTherapeutics, Inc., a Florida corporation (the "Company"), enclosed please find for review by the Securities and Exchange Commission (the "Commission") copies of Amendment No. 1 and Amendment No. 2 to the Company's Registration Statement on Form S-3 (File No. 333-144801) (the "Registration Statement"). The Registration Statement was initially filed with the Commission on July 24, 2007. On September 24, 2007, the Company filed Amendment No. 1 to the Registration Statement with the Commission in response to the comments of the staff of the Commission (the "Staff") that were contained in your letter (the "Comment Letter") dated August 7, 2007. On September 24, 2007, the Company also filed Amendment No. 2 to the Registration Statement solely for the purpose of correcting an error in the date of the auditor's consent.

Responses to Comment Letter

The following are the Company's responses to the issues and questions raised by the Staff in the Comment Letter. We have noted the Staff's comments below in bold face type and the responses in regular type.

General

- We note you have a confidential treatment request that is outstanding. The request will need to be granted prior to the effectiveness of this registration statement.**

In response to the Staff's comment, the Company has amended its confidential treatment request to the Commission. We subsequently we received a telephone call from John Fieldsend of the Staff in which he indicated that the Staff had no further questions or comments to the confidential treatment request and that the request was granted by the Commission.

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We note the registration statement covers a primary offering and a secondary offering. Please revise throughout the filing, including in the registration fee table, to specify the dollar amount for each offering and the number of shares for the secondary offering.

In response to the Staff's comment, the Company has revised the registration fee table to reflect the fact that the Registration Statement covers both a primary offering and a secondary offering.

Selling Securityholders, page 8

- 3. Please provide the information required by Item 507 of Regulation S-K in a pre-effective amendment. You do not appear to be eligible to provide this information in prospectus supplements or post-effect amendments because it appears you do not satisfy the conditions of Rule 430B(b).**

In response to the Staff's comment, the Company has included the information required by Item 507 of Regulation S-K in the Selling Securityholder section of the Registration Statement.

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The Company would be grateful if the Staff would provide any comments to the revised Registration Statement at its earliest convenience so that the Company may provide any additional responses required.

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We thank you in advance for your time and attention to these amendments, as well as to our comments. Should you wish to discuss the enclosed materials at any time, please do not hesitate to contact James Tanenbaum at (212) 468-8163 or Joseph Magnas at (212) 336-4170 of Morrison & Foerster LLP.

Sincerely,

/s/ James R. Tanenbaum
James R. Tanenbaum

cc: David Aviezer, Ph.D.
Protalix BioTherapeutics, Inc.

Enclosures