

Via Facsimile and U.S. Mail  
Mail Stop 6010

October 2, 2008

Yossi Maimon  
Chief Financial Officer and Treasurer  
Protalix BioTherapeutics, Inc.  
2 Snunit Street  
Science Park  
POB 455  
Carmiel, Israel 20100

**Re: Protalix BioTherapeutics**  
**Form 10-K for the Fiscal Year Ended December 31, 2007**  
**Filed March 17, 2008**  
**File Number: 001-33357**

Dear Mr. Maimon:

We have the following additional comments on your response dated July 11, 2008. 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.

Note 5 – Share Capital, page F-20

1. On page F-13 you state that the fair value of stock options was determined using the Black-Scholes options-pricing model. Please confirm to us that you used this model and tell us the assumptions you used for 2007. Please refer to paragraph A240e.(2) of FAS 123R.
2. We are unable to discern a consistent policy for the measurement date used under 123(R) and EITF 96-18 as well as the valuation methodology used. In order to help us understand these matters, please tell us the nature of the restrictions, and whether or not the restrictions extend beyond the vesting or service period, for the following grants and how the restrictions are reflected in the valuation method (paragraph 17 of 123(R) for employees). Please tell us whether the nature of the restrictions is the same as the trading restrictions on the 99% of outstanding shares of common stock.
  - Options held by non-employees that vested during the period
  - Options granted to employees during the period

- Restricted common stock held by non-employees that vested during the period
  - Restricted common stock granted to employees during the period
3. You state in your disclosure on page 57 that you are using the expected term based on the simplified method. Please address the following:
- Please tell us if any of the features discussed in footnote 7 of SAB 107A exist, and if not, why you believe using the expected term, which may be shorter than the contractual term, is appropriate. Refer to SAB 107D(2)(Q6).
  - If there are restrictions on the stock that go beyond the vesting or service date, it does not appear that the simplified method is appropriate.
  - It appears that an option that is “in the money” may have a different expected term than an option that is “at the money,” which was one of the prerequisites for using the simplified method for determining the expected term. Please tell us why you believe use of the simplified method is appropriate based on the guidance in SAB 107D(2)(Q6).
4. Please provide us an analysis, preferably in tabular format, of all equity issuances in 2007 and 2008, the date of grant/issuance, fair value used, measurement date, trading value on the measurement date, the exercise price, if applicable, recipient of the grant/issuance (employee/non-employee and related party/non-related party), any post-vesting/service period restrictions, and the amount of compensation recorded for each issuance. Please provide a separate table for non-employee issuances/grants in which compensation was recorded based on a vesting date during the period.
5. For the first quarter in 2007 you used the quoted market price on the Tel-Aviv Stock Exchange for Bio-Cell rather than Over-the Counter Bulletin Board (OTCBB) bid/ask because you state there was insufficient volume on OTCBB. Please address the following:
- Tell us if you used the quoted market price on the measurement date or the quoted market price at the end of the quarter (i.e. March 31, 2007)
  - We understand your stock was listed on the American Stock Exchange beginning March 12, 2007. Tell us if you had any measurement dates on or after this date and if so, why you used the Tel-Aviv stock exchange for Bio-Cell instead of the American Stock Exchange for the company.
6. For the second quarter in 2007 you used the quoted trading value on the American Stock Exchange. Please address the following:
- What consideration you gave to restrictions in determining the fair value.
  - Whether or not the quoted trading price was used or if that price was adjusted.

- Tell us if you used the quoted trading price at the measurement date or some other date like the end of period.
7. For the third quarter in 2007 you used the private placement in the fourth quarter to determine your fair value. Please address the following:
    - What consideration you gave to the fact that the trading volume was higher in the third quarter than the second quarter.
    - What consideration was given to restrictions in determining the fair value.
  8. For the fourth quarter in 2007 you used the quoted trading price on December 31, 2007. Tell us if there were issuances/grants or vested equity issuances other than on December 31, 2007 and why the measurement date was not used for those.
  9. Tell us what methodology you used for stock compensation in the first and second quarter of 2008 addressing the above concerns as applicable.
  10. You use the terminology “the appropriate date” on page 57 and in Note 5 to the financial statements when referring to the date in which you used for determining fair value. Your response letter implies that you may have used the date at the end of the quarter, which may differ from the measurement date. Please confirm that you are referring to the measurement date as discussed in SFAS 123R and EITF 96-18 and revise your wording accordingly or tell us why the measurement date has not been used.

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

You may contact Vanessa Robertson, Staff Accountant, at (202) 551-3649 or Mary Mast, Senior Staff Accountant, at (202) 551-3613 if you have any questions regarding the comment. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg  
Senior Assistant Chief  
Accountant