

March 16, 2009

Mr. Todd E. Hardiman  
Associate Chief Accountant  
Division of Corporation Finance  
United States Securities and Exchange Commission  
100 F. Street, N.E.  
Washington, D.C. 20549

RE: Protalix BioTherapeutics, Inc.  
Annual Report on Form 10-K, filed March 17, 2008  
for the Fiscal Year Ended December 31, 2007  
File No. 001-33357

Ladies and Gentlemen:

On behalf of our client, Protalix BioTherapeutics, Inc., a Florida corporation (the "Company"), transmitted herewith are responses to the Staff's comments to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2007 (the "2007 Form 10-K"). The comments were delivered by the Staff to the Company and its counsel by way of a telephone call on March 5, 2009.

For ease of reference, we have noted the Staff's comments in bold faced type and the responses in regular type.

**1. In reference to the Company's response to Comment 4 of the Company's letter dated March 4, 2009, the Staff requested a detailed description of its calculation of the compensation expense recorded with respect to the options to purchase 387,542 shares of common stock issued to a nonemployee on December 31, 2006 for the second quarter of 2007. The Staff noted that the description should include an explanation of the \$140,000 effect of the remeasurement of such options disclosed in the Company's Current Report on Form 8-K dated February 26, 2009.**

**RESPONSE:** Reference is made to the Company's response to Comment 4 of its letter dated March 4, 2009. In the response, the Company described its accounting treatment of the options

---

to purchase 387,542 shares of common stock issued to a nonemployee on December 31, 2006 (the "Referenced Options"). As discussed in that response, the Company remeasures each individual tranche of options for which the applicable vesting/service period crosses interim periods (such as the Referenced Options) at the end of each period until the final vesting date of the tranche. The Company calculates the proportionate compensation expense for outstanding options issued to nonemployees by dividing the number of months in the calculation period (generally a quarter) by the number of months in the vesting period of the tranche and multiplying the result by the portion of the option that vests during the vesting period of the tranche. For purposes of determining the fair value of the options using the Black-Scholes option-pricing model, the Company uses the closing sale price of its common stock on the NYSE Alternext US on the calculation date.

For purposes of the restated financial statements for the first quarter of 2007, the Company calculated the compensation expense of the Referenced Options by multiplying the fair value of the options (based on the Black-Scholes option-pricing model) on March 31, 2007, by the number achieved by (A) dividing three over 14; the number of months in the first quarter of 2007 over the number of months in the vesting period and (B) multiplying the result by 40%, the portion of the option that was to vest during the vesting period. The result of this calculation for March 31, 2007 was approximately \$744,000.

For purposes of the restated financial statements for the second quarter of 2007, the Company calculated the compensation expense of the Referenced Options by multiplying the fair value of the options (based on the Black-Scholes option-pricing model) on June 30, 2007, by the number achieved by (A) dividing six over 14; the cumulative number of months in the first two quarters of 2007 over the number of months in the vesting period and (B) multiplying the result by 40%, the portion of the option that was to vest during the vesting period. The result of this calculation for June 30, 2007 was approximately \$1,362,000. The Company then subtracted the compensation expense recorded for the Referenced Options in the first quarter yielding a total compensation expense in connection with the Referenced Options for the second quarter of 2007 equal to approximately \$618,000.

As discussed in the Company's response letter dated March 4, 2009, when preparing the financial statements for the second quarter of 2007 as originally reported, the Company did not remeasure the compensation expense in connection with options held by nonemployees. Rather, the Company calculated the compensation expense by multiplying the fair value of the options (based on the Black-Scholes option-pricing model) on June 30, 2007, by the quotient of the total number of Referenced Options divided by 11, which is the total number of fiscal quarters during the full vesting period of the Referenced Options. The result of this calculation for June 30, 2007 was approximately \$722,000 which was increased to \$758,000 to adjust for an error in calculation made in the originally reported financial statements for the first quarter of 2007. The difference between the originally reported calculation and the restated calculation, which is approximately \$140,000, was primarily caused by the remeasurement of the first quarter's compensation expenses as of the end of the second quarter of 2007.

The Company notes that the remeasurements described in this response are consistent with the straight-line attribution accounting treatment described in the Company's response letter dated December 23, 2008. The measurements and the subsequent remeasurements focus on the

portion of the options in question that will vest on the next vesting date, not on the entire unvested portion of such options. In the application of graded attribution, however, the measurements are based on all of the unvested options. Had the Company applied graded attribution to the Referenced Options, the difference in compensation expense that would have been recorded is immaterial.

**2. The Staff requested that the Company describe the accounting treatment of the 60% of the options to purchase 387,542 shares of common stock issued to a nonemployee on December 31, 2006 that vest after March 1, 2008.**

**RESPONSE:** The remaining 60% of the Referenced Options vest in four tranches of 15% on each of the following dates: June 30, 2008; December 31, 2008; June 30, 2009; and September 30, 2009. After the first vesting period of the Referenced Options, for each subsequent quarter, the Company applied a final measurement to the tranches of options that reached a vesting date during each of the quarters of 2008 following the first vesting period of March 1, 2008, and with an interim measurement for the remaining unvested tranches of options in the relevant quarter. For example, the Company calculated the final measurement of the compensation expense for the Referenced Options for the quarter ended March 31, 2008 by multiplying the fair value of the options (using the Black-Scholes option-pricing model) on March 1, 2008, by 40%, the portion of the option that were vested as of that date. The Company then subtracted the compensation expense recorded for the Referenced Options during 2007. In addition, the compensation expense recorded as of March 31, 2008 included an interim measurement for the month of March 2008 of the proportionate value of the second tranche of the Referenced Options. The interim measurement was calculated by (A) dividing 1 over 4; the number of months of the second tranche of the Referenced Options that coincided with the first quarter of 2008 over the number of months in the vesting period of the second tranche and (B) multiplying the result by 15%, the portion of the Referenced Options were to vest during the second vesting period. Interim measurements were remeasured until the Company was able to apply a final measurement.

**3. The Staff requested that the Company describe the forfeiture rate it applied in calculating the fair value of the options issued to nonemployees.**

**RESPONSE:** The Company did not apply a forfeiture rate adjustment to the Referenced Options in the calculation of the compensation expense thereof. The Company expects to continue to engage the consultant for the entire vesting period of the Referenced Options. In addition, in light of the flexibility afforded to the consultant with respect to the terms of his engagement by the Company, and based upon the Company's relationship with the consultant, the Company believes that it is unlikely that the consultant will cease providing services to the Company prior to the end of the last vesting period of the Referenced Options. The Company notes that the application of any commonly accepted forfeiture rate adjustment to the Referenced Options, would not result in a material change to the compensation expense recorded by the Company for the Referenced Options.

**4. The Staff requested that the Company confirm the accounting treatment of the other 1,753,027 options issued to nonemployees and confirm that the compensation expense recorded for such options is not subject to remeasurement.**

**RESPONSE:** The Company confirms that the compensation expenses recorded for the 1,753,027 options described in Exhibit B to the Company's response letter dated October 16, 2008 involved final measurements for each of the quarters of 2007 and 2008 as such options vested at the end of each quarter and were not subject to any remeasurement.

**5. The Staff requested that the Company confirm that it will not reference the use of the simplified method to estimate the contractual term of outstanding options in future filings.**

**RESPONSE:** The Company confirms that that it will not reference the use of the simplified method to estimate the contractual term of outstanding options in future filings. The Company notes, however, that it may use the simplified method in the future in connection with the grant of options that meet the criteria of Footnote 7 of SAB 107A.

\* \* \*

Please call the undersigned at the telephone number set forth above or Joseph Magnas at 212-336-4170 with any question or comment you may have regarding the responses set forth herein. In addition, please send all written correspondence directly to the undersigned and Joseph Magnas of Morrison & Foerster LLP, 1290 Avenue of the Americas, New York, New York 10104, telecopy 212-468-7900, with copies to David Aviezer, Ph.D., the Company's President and Chief Executive Officer, at 2 Snunit Street, Science Park, P.O.B. 455, Carmiel 20100, Israel, telecopy +972-4-988-9489.

Sincerely,

/s/ James R. Tanenbaum

cc: David Aviezer, Ph.D.  
Yossi Maimon