

---

Securities and Exchange Commission,  
Washington, D.C. 20549

**Schedule 13D**  
**Under the Securities Exchange Act of 1934**  
**(Amendment No.\*)\_\***

**PROTALIX BIOTHERAPEUTICS, Inc.**  
(Name of Issuer)

**Common Stock, par value \$.001 per share**  
(Title of Class of Securities)

**74365A101**  
(CUSIP Number)

**Eli Arad Jabutinsky 7 , Ramat Gan, Israel 52520 Tel- 03-6114514**  
(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

**December 31, 2006**  
(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

**Note:** Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

---

---

|   |   |                                      |
|---|---|--------------------------------------|
| (1)   | Names of reporting persons.<br>Bio-Cell LTD   |                                      |
| (2)   | Check the appropriate box if a member of a group<br>(see instructions)                  | (a)<br>(b)                           |
| (3)   | SEC use only  |                                      |
| (4)   | Source of funds (see instructions)<br>N/A   |                                      |
| (5)   | Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)     |                                      |
| (6)   | Citizenship or place of organization<br>Israel  |                                      |
| Number of<br>shares<br>beneficially<br>owned by<br>each<br>reporting<br>person<br>with: | (7)   | Sole voting Power<br>14,466,319      |
|   | (8)   | Shared voting power<br>0             |
|   | (9)   | Sole dispositive power<br>14,466,319 |
|   | (10)  | Shared dispositive power<br>0        |
| (11)  | Aggregate amount beneficially owned by each reporting person<br>14,466,319              |                                      |
| (12)  | Check if the aggregate amount in Row (11) excludes certain shares<br>(see instructions) |                                      |
| (13)  | Percent of class represented by amount in Row (11) as of 31/03/2008<br>19.07%           |                                      |
| (14)  | Type of reporting person (see instructions)<br>CO                                       |                                      |

*Instructions for Cover Page*

(1) *Names of Reporting Persons* —Furnish the full legal name of each person for whom the report is filed— *i.e.* , each person required to sign the schedule itself—including each member of a group. Do not include the name of a person required to be identified in the report but who is not a reporting person.

(2) If any of the shares beneficially owned by a reporting person are held as a member of the group and the membership is expressly affirmed, please check row 2(a). If the reporting person disclaims membership in a group or describes a relationship with other person but does not affirm the existence of a group, please check row 2(b) (unless it is a joint filing pursuant to Rule 13d-1(k)(1) in which case it may not be necessary to check row 2(b)).

(3) The 3rd row is for SEC internal use; please leave blank.

(4) Classify the source of funds or other consideration used or to be used in making the purchases as required to be disclosed pursuant to Item 3 of Schedule 13D and insert the appropriate symbol (or symbols if more than one is necessary) in row (4):

| <u>Category of Source</u>                                     | <u>Symbol</u> |
|---|---------------|
| Subject Company (Company whose securities are being acquired) | SC            |
| Bank  | BK            |
| Affiliate (of reporting person)                               | AF            |
| Working Capital (of reporting person)                         | WC            |
| Personal Funds (of reporting person)                          | PF            |
| Other   | OO            |

(5) If disclosure of legal proceedings or actions is required pursuant to either Items 2(d) or 2(e) of Schedule 13D, row 5 should be checked.

(6) *Citizenship or Place of Organization* —Furnish citizenship if the named reporting person is a natural person. Otherwise, Furnish place of organization. (See Item 2 of Schedule 13D).

(7)–(11) [Reserved]

(12) Check if the aggregate amount reported as beneficially owned in row (11) does not include shares which the reporting person discloses in the report but as to which beneficial ownership is disclaimed pursuant to Rule 13d-4 [17 CFR 240.13d-4] under the Securities Exchange Act of 1934.

(13) *Aggregate Amount Beneficially Owned by Each Reporting Person, Etc.* —Rows (7) through (11), inclusive, and (13) are to be completed in accordance with the provisions of Item 5 of Schedule 13D. All percentages are to be rounded off to nearest tenth (one place after decimal point).

(14) *Type of Reporting Person* —Please classify each “reporting person” according to the following breakdown and place the appropriate symbol (or symbols, *i.e.*, if more than one is applicable, insert all applicable symbols) on the form:

| <u>Category</u>                         | <u>Symbol</u> |
|---|---------------|
| Broker Dealer                           | BD            |
| Bank                                    | BK            |
| Insurance Company                       | IC            |
| Investment Company                      | IV            |
| Investment Adviser                      | IA            |
| Employee Benefit Plan or Endowment Fund | EP            |
| Parent Holding Company/Control Person   | HC            |
| Savings Association                     | SA            |
| Church Plan                             | CP            |
| Corporation                             | CO            |
| Partnership                             | PN            |
| Individual                              | IN            |
| Other                                   | OO            |

Notes: Attach as many copies of the second part of the cover page as are needed, one reporting person per page.

Filing persons may, in order to avoid unnecessary duplication, answer items on the schedules (Schedule 13D, 13G, or 14D-1) by appropriate cross references to an item or items on the cover page(s). This approach may only be used where the cover page item or items provide all the disclosure required by the schedule item. Moreover, such a use of a cover page item will result in the item becoming a part of the schedule and accordingly being considered as "filed" for purposes of section 18 of the Securities Exchange Act or otherwise subject to the liabilities of that section of the Act.

Reporting persons may comply with their cover page filing requirements by filing either completed copies of the blank forms available from the Commission, printed or typed facsimiles, or computer printed facsimiles, provided the documents filed have identical formats to the forms prescribed in the Commission's regulations and meet existing Securities Exchange Act rules as to such matters as clarity and size (Securities Exchange Act Rule 12b-12).

#### Special Instructions for Complying With Schedule 13D

Under sections 13(d) and 23 of the Securities Exchange Act of 1934 and the rules and regulations thereunder, the Commission is authorized to solicit the information required to be supplied by this schedule by certain security holders of certain issuers.

Disclosure of the information specified in this schedule is mandatory. The information will be used for the primary purpose of determining and disclosing the holdings of certain beneficial owners of certain equity securities. This statement will be made a matter of public record. Therefore, any information given will be available for inspection by any member of the public.

Because of the public nature of the information, the Commission can use it for a variety of purposes, including referral to other governmental authorities or securities self-regulatory organizations for investigatory purposes or in connection with litigation involving the federal securities laws or other civil, criminal or regulatory statutes or provisions.

Failure to disclose the information requested by this schedule may result in civil or criminal action against the persons involved for violation of the federal securities laws and rules promulgated thereunder.

*Instructions.* A. The item numbers and captions of the items shall be included but the text of the items is to be omitted. The answers to the items shall be so prepared as to indicate clearly the coverage of the items without referring to the text of the items. Answer every item. If an item is inapplicable or the answer is in the negative, so state.

B. Information contained in exhibits to the statement may be incorporated by reference in answer or partial answer to any item or sub-item of the statement unless it would render such answer misleading, incomplete, unclear or confusing. Material incorporated by reference shall be clearly identified in the reference by page, paragraph, caption or otherwise. An express statement that the specified matter is incorporated by reference shall be made at the particular place in the statement where the information is required. A copy of any information or a copy of the pertinent pages of a document containing such information which is incorporated by reference shall be submitted with this statement as an exhibit and shall be deemed to be filed with the Commission for all purposes of the Act.

---

C. If the statement is filed by a general or limited partnership, syndicate, or other group, the information called for by Items 2–6, inclusive, shall be given with respect to (i) each partner of such general partnership; (ii) each partner who is denominated as a general partner or who functions as a general partner of such limited partnership; (iii) each member of such syndicate or group; and (iv) each person controlling such partner or member. If the statement is filed by a corporation or if a person referred to in (i), (ii), (iii) or (iv) of this Instruction is a corporation, the information called for by the above mentioned items shall be given with respect to (a) each executive officer and director of such corporation; (b) each person controlling such corporation; and (c) each executive officer and director of any corporation or other person ultimately in control of such corporation.

*Item 1. Security and Issuer.* State the title of the class of equity securities to which this statement relates and the name and address of the principal executive offices of the issuer of such securities.

This Amendment is filed by Bio-Cell LTD, with respect to the Common Stock, \$.001 par value (the “Shares”) of PROTALIX BIOTHERAPEUTICS, Inc. (the “Issuer”). The principal executive offices of the Issuer are located at 2 Snunit St., Science Park, POB 455, Karmiel 20100, Israel. Information regarding the Reporting entity is set forth below.

*Item 2. Identity and Background.* If the person filing this statement or any person enumerated in Instruction C of this statement is a corporation, general partnership, limited partnership, syndicate or other group of persons, state its name, the state or other place of its organization, its principal business, the address of its principal office and the information required by (d) and (e) of this Item. If the person filing this statement or any person enumerated in Instruction C is a natural person, provide the information specified in (a) through (f) of this Item with respect to such person(s).

Bio-Cell LTD is a holding company organized under the laws of the State of Israel and publicly traded at TASE (Tel-Aviv stock exchange). Bio-Cell’s principal business address is Jabutinsky 7 , Ramat Gan, Israel 52520.

To the best knowledge of us, Bio-Cell was not convicted in any criminal proceeding (excluding traffic violations and similar misdemeanors), or was a party to any civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was subject to a judgment, decree or final order enjoining future violations of, or prohibiting activity subject to, federal or state securities laws or finding any violation with respect to such laws during the last five years.

(a) Name;

(b) Residence or business address;

(c) Present principal occupation or employment and the name, principal business and address of any corporation or other organization in which such employment is conducted;

(d) Whether or not, during the last five years, such person has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) and, if so, give the dates, nature of conviction, name and location of court, any penalty imposed, or other disposition of the case;

(e) Whether or not, during the last five years, such person was a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws; and, if so, identify and describe such proceedings and summarize the terms of such judgment, decree or final order; and

---

(f) Citizenship.

*Item 3. Source and Amount of Funds or Other Consideration.* State the source and the amount of funds or other consideration used or to be used in making the purchases, and if any part of the purchase price is or will be represented by funds or other consideration borrowed or otherwise obtained for the purpose of acquiring, holding, trading or voting the securities, a description of the transaction and the names of the parties thereto. Where material, such information should also be provided with respect to prior acquisitions not previously reported pursuant to this regulation. If the source of all or any part of the funds is a loan made in the ordinary course of business by a bank, as defined in section 3(a)(6) of the Act, the name of the bank shall not be made available to the public if the person at the time of filing the statement so requests in writing and files such request, naming such bank, with the Secretary of the Commission. If the securities were acquired other than by purchase, describe the method of acquisition.

Bio-Cell LTD acquired 14,466,319 Shares pursuant to a reverse merger transaction, (the "Merger") completed by the Issuer on December 31, 2006, whereby the Issuer caused its wholly owned subsidiary, Protalix Acquisition Co. Ltd. to merge with and into Protalix Ltd., pursuant to which Protalix Ltd. became a wholly-owned subsidiary of the Issuer and Bio-Cell LTD received the Shares in exchange for their ordinary shares of Protalix Ltd.

*Item 4. Purpose of Transaction.* State the purpose or purposes of the acquisition of securities of the issuer. Describe any plans or proposals which the reporting persons may have which relate to or would result in:

- (a) The acquisition by any person of additional securities of the issuer, or the disposition of securities of the issuer;
  - (b) An extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the issuer or any of its subsidiaries;
  - (c) A sale or transfer of a material amount of assets of the issuer or any of its subsidiaries;
  - (d) Any change in the present board of directors or management of the issuer, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board;
  - (e) Any material change in the present capitalization or dividend policy of the issuer;
  - (f) Any other material change in the issuer's business or corporate structure, including but not limited to, if the issuer is a registered closed-end investment company, any plans or proposals to make any changes in its investment policy for which a vote is required by section 13 of the Investment Company Act of 1940;
  - (g) Changes in the issuer's charter, bylaws or instruments corresponding thereto or other actions which may impede the acquisition of control of the issuer by any person;
  - (h) Causing a class of securities of the issuer to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association;
  - (i) A class of equity securities of the issuer becoming eligible for termination of registration pursuant to section 12(g)(4) of the Act; or
  - (j) Any action similar to any of those enumerated above.
-

Bio-Cell LTD acquired 14,466,319 Shares pursuant to a reverse merger transaction, (the "Merger") completed by the Issuer on December 31, 2006, whereby the Issuer caused its wholly owned subsidiary, Protalix Acquisition Co. Ltd. to merge with and into Protalix Ltd., pursuant to which Protalix Ltd. became a wholly-owned subsidiary of the Issuer and Bio-Cell LTD received the Shares in exchange for the ordinary shares of Protalix Ltd. Bio-Cell LTD has no plans or proposals that relate to or that will result in any of the actions specified in clauses (a) through (j) of Item 4 of Schedule 13D.

*Item 5. Interest in Securities of the Issuer.* (a) State the aggregate number and percentage of the class of securities identified pursuant to Item 1 (which may be based on the number of securities outstanding as contained in the most recently available filing with the Commission by the issuer unless the filing person has reason to believe such information is not current) beneficially owned (identifying those shares which there is a right to acquire) by each person named in Item 2. The above mentioned information should also be furnished with respect to persons who, together with any of the persons named in Item 2, comprise a group within the meaning of section 13(d)(3) of the Act;

(b) For each person named in response to paragraph (a), indicate the number of shares as to which there is sole power to vote or to direct the vote, sole power to dispose or to direct the disposition, or shared power to dispose or to direct the disposition. Provide the applicable information required by Item 2 with respect to each person with whom the power to vote or to direct the vote or to dispose or direct the disposition is shared;

(c) Describe any transactions in the class of securities reported on that were effected during the past sixty days or since the most recent filing of Schedule 13D (§240.13d-101), whichever is less, by the persons named in response to paragraph (a).

*Instruction.* The description of a transaction required by Item 5(c) shall include, but not necessarily be limited to: (1) The identity of the person covered by Item 5(c) who effected the transaction; (2) the date of transaction; (3) the amount of securities involved; (4) the price per share or unit; and (5) where and how the transaction was effected.

(d) If any other person is known to have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, such securities, a statement to that effect should be included in response to this item and, if such interest relates to more than five percent of the class, such person should be identified. A listing of the shareholders of an investment company registered under the Investment Company Act of 1940 or the beneficiaries of an employee benefit plan, pension fund or endowment fund is not required.

(e) If applicable, state the date on which the reporting person ceased to be the beneficial owner of more than five percent of the class of securities.

*Instruction.* For computations regarding securities which represent a right to acquire an underlying security, see Rule 13d-3(d)(1) and the note thereto.

(a)- (b) Bio-Cell LTD is the beneficial owner of 14,466,319 shares of the Common Stock of the Issuer. Bio-Cell LTD is the beneficial owner of 19.07% of the Issuer's Common Stock. The percentage of beneficial ownership is based upon 75,867,898 shares of Common Stock outstanding as of March 31, 2008.

The securities discussed above are owned by Bio-Cell LTD. Bio-Cell LTD has not engaged in any transaction involving any of the securities of the Issuer during the past sixty days.

---

*Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer.* Describe any contracts, arrangements, understandings or relationships (legal or otherwise) among the persons named in Item 2 and between such persons and any person with respect to any securities of the issuer, including but not limited to transfer or voting of any of the securities, finder's fees, joint ventures, loan or option arrangements, puts or calls, guarantees of profits, division of profits or loss, or the giving or withholding of proxies, naming the persons with whom such contracts, arrangements, understandings or relationships have been entered into. Include such information for any of the securities that are pledged or otherwise subject to a contingency the occurrence of which would give another person voting power or investment power over such securities except that disclosure of standard default and similar provisions contained in loan agreements need not be included.

In connection with the merger, Bio-Cell entered into lock-up agreements to satisfy Israeli tax laws and contractual obligations. The lock-up agreements prohibit Bio-Cell from, directly or indirectly, selling or otherwise transferring the shares of our common stock issued to them as a result of the merger during a period commencing upon the closing of the merger and ending on January 1, 2009. However, during such period, the Bio-Cell LTD may, under the terms of the lock-up agreements, sell an aggregate of 10% of the original number of locked-up shares. All permitted sales of locked-up shares that may be made during such time period are cumulative.

*Item 7. Material to be Filed as Exhibits.* The following shall be filed as exhibits: Copies of written agreements relating to the filing of joint acquisition statements as required by Rule 13d-1(k) and copies of all written agreements, contracts, arrangements, understanding, plans or proposals relating to: (1) The borrowing of funds to finance the acquisition as disclosed in Item 3; (2) the acquisition of issuer control, liquidation, sale of assets, merger, or change in business or corporate structure, or any other matter as disclosed in Item 4; and (3) the transfer or voting of the securities, finder's fees, joint ventures, options, puts, calls, guarantees of loans, guarantees against loss or of profit, or the giving or withholding of any proxy as disclosed in Item 6.

None

*Signature.* After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date \_\_\_\_\_  
Signature \_\_\_\_\_  
Name/Title \_\_\_\_\_

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative (other than an executive officer or general partner of the filing person), evidence of the representative's authority to sign on behalf of such person shall be filed with the statement: *Provided, however,* That a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

Attention—Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001).

(Secs. 13(d), 13(g), 14(d), 23, 48 Stat. 894, 895, 901; sec. 8, 49 Stat. 1379; sec. 203(a), 49 Stat. 704; sec. 10, 78 Stat. 88a; secs. 2, 3, 82 Stat. 454, 455; secs. 1, 2, 3-5, 84 Stat. 1497; sec. 18, 89 Stat. 155; secs. 202, 203, 91 Stat. 1494, 1498, 1499; 15 U.S.C. 78m(d), 78m(g), 78n(d), 78w)

[44 FR 2145, Jan. 9, 1979; 44 FR 11751, Mar. 2, 1979; 44 FR 70340, Dec. 6, 1979; 47 FR 11466, Mar. 16, 1982; 61 FR 49959, Sept. 24, 1996; 62 FR 35340, July 1, 1997; 63 FR 2867, Jan. 16, 1998; 63 FR 15287, Mar. 31, 1998; 72 FR 45111, Aug. 10, 2007]

---