

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| OMB APPROVAL | |
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| 1. Name and Address of Reporting Person * <u>Maimon Yossi</u> (Last) (First) (Middle) C/O PROTALIX BIOTHERAPEUTICS, INC. 2 SNUNIT STREET, SCIENCE PARK, POB 455 (Street) CARMIEL L3 20100 (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol <u>Protalix BioTherapeutics, Inc. [PLX]</u> | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>VP, Chief Financial Officer</u> |
| | 3. Date of Earliest Transaction (Month/Day/Year) <u>10/07/2010</u> | |
| 4. If Amendment, Date of Original Filed (Month/Day/Year) | | |

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) | | | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|---------|---|--|---|
| | | | Code | V | Amount | (A) or (D) | Price | | | |
| Common Stock | 10/07/2010 | | S | | 70,000 ⁽¹⁾ | D | \$9.67 | 0 ⁽²⁾ | I | By trust ⁽³⁾ |
| Common Stock | 10/07/2010 | | M | | 77,769 ⁽¹⁾ | A | \$0.972 | 0 ⁽²⁾ | I | By trust ⁽³⁾ |
| Common Stock | 10/07/2010 | | F | | 7,769 | D | \$9.73 | 0 ⁽²⁾ | I | By trust ⁽³⁾ |

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | |
|--|--|--------------------------------------|--|--------------------------------|---|--|--------|--|-----------------|---|--|--|---|--|-------|
| | | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | | | | | | Title |
| Stock Options (Right to Buy) | \$0.972 | 10/07/2010 | | M | | | 77,769 | (4) | 09/19/2016 | Common Stock | 77,769 | \$0 | 75,964 ⁽⁵⁾ | D | |

Explanation of Responses:

- The sales reported on this Form 4 were effected pursuant to a Rule 10b5-1 trading plan.
- The reporting person acquired 70,000 shares of common stock upon the exercise of 77,769 outstanding options on a cash-less exercise basis, all of which shares were sold by the reporting person. The Company retained 7,769 shares of common stock in connection with the cashless exercise.
- qualify for certain tax benefits under Section 102 of the Israeli Tax Ordinance, securities issued to an employee upon the exercise of stock options must be registered in the name of a trustee.
- All options are fully vested.
- Does not include options to purchase 50,000 shares of common stock at an exercise price equal to \$2.65 per share that expire on February 25, 2019, does not include 130,000 shares of common stock at an exercise price equal to \$6.90 per share that expire on February 25, 2020 and does not include options to purchase 175,000 shares of common stock at an exercise price equal to \$5.00 per share that expire on February 7, 2018.

/s/ Yossi Maimon 10/08/2010

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.