

FORM 4

UNITED STATES SECURITIES AND EXCHANGE
COMMISSION

Washington, D.C. 20549

OMB APPROVAL

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

STATEMENT OF CHANGES IN BENEFICIAL
OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,
 Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the
 Investment Company Act of 1940

| | | |
|---|--|--|
| 1. Name and Address of Reporting Person* BRAUN ISAAC 0001336384 <hr/> (Last) (First) (Middle) 9 ZEHARIA STREET <hr/> (Street) BENE L3 51540 <hr/> (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol PLURISTEM THERAPEUTICS INC [PSTI] | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below) |
| | 3. Date of Earliest Transaction (Month/Day/Year) 12/21/2011 | |

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 | 12/21/2011 ⁽¹⁾ | | A | | 50,000 | A | \$0 | 215,208 | D | |

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 | | Date Exercisable | Expiration Date | | | | | |
| | | | | | | | | | | Amount or Number of Shares | | | |

Explanation of Responses:

1. The shares vest as follows: 25% after 6 months from grant and the remaining shares vest in 6 equal installments every 3 months thereafter.

Remarks:

/s/ Isaac Braun

** Signature of Reporting Person

12/22/2011

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.