

## FORM 3

UNITED STATES SECURITIES AND EXCHANGE  
COMMISSION  
Washington, D.C. 20549INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF  
SECURITIES

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

| OMB APPROVAL                                      |                   |     |
|---|-------------------|-----|
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|   |  |  |
|---|--|--|
| 1. Name and Address of Reporting Person*  | 2. Date of Event Requiring Statement<br>(Month/Day/Year) | 3. Issuer Name and Ticker or Trading Symbol<br><b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>  |
| Kwiat Moria 0001549907<br><hr/> (Last) (First) (Middle)<br><b>11 HAKFAR ST.</b><br><hr/> (Street)<br><b>KIRYAT ONO L3 55525</b><br><hr/> (City) (State) (Zip) | 05/15/2012   | 4. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br><input checked="" type="checkbox"/> Director 10% Owner<br><input type="checkbox"/> Officer Other<br>(give title below) (specify below) |
|   |  | 5. If Amendment, Date of Original Filed<br>(Month/Day/Year)  |
|   |  | 6. Individual or Joint/Group Filing<br>(Check Applicable Line)<br><input checked="" type="checkbox"/> Form filed by One Reporting Person<br><input type="checkbox"/> Form filed by More than One Reporting Person    |

**Table I – Non-Derivative Securities Beneficially Owned**

|                                 |   |  |   |
|---------------------------------|---|--|---|
| 1. Title of Security (Instr. 4) | 2. Amount of Securities Beneficially Owned (Instr. 4) | 3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 4. Nature of Indirect Beneficial Ownership (Instr. 5) |
|                                 |   |  |   |

**Table II – Derivative Securities Beneficially Owned  
(e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security (Instr. 4) | 2. Date Exercisable and Expiration Date (Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4) | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
|--|--|---|--|--|---|
|  | Date Exercisable Expiration Date                         | Title Amount or Number of Shares  |  |  |   |

**Explanation of Responses:****Remarks:****No securities are beneficially owned.**/s/ Moria Kwiat05/15/2012

\*\* 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.**