

**FORM 4****UNITED STATES SECURITIES AND EXCHANGE  
COMMISSION**

Washington, D.C. 20549

**OMB APPROVAL**

OMB Number: 3235-0287  
 Expires: December 31, 2014  
 Estimated average burden hours per response 0.5

☐ 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 or Section 30(h) of the Investment Company Act of 1940

|                                                                                                                                                                                                                |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name and Address of Reporting Person*<br><b>YANAY YAKY 0001402539</b><br><hr/> (Last) (First) (Middle)<br><b>14 ARGAMAN ST.</b><br><hr/> (Street)<br><b>SHIMSHIT L3 17906</b><br><hr/> (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b><br><hr/> 3. Date of Earliest Transaction (Month/Day/Year)<br><b>09/22/2014</b><br><hr/> 4. If Amendment, Date of Original Filed (Month/Day/Year) | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable)<br>Director 10% Owner<br>X Officer (give title below) Other (specify below)<br><b>COO &amp; President</b><br><hr/> 6. Individual or Joint/Group Filing (Check Applicable Line)<br>X Form filed by One Reporting Person<br>Form filed by More than One Reporting Person |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**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                    | 09/22/2014                           |                                                    | P                              |   | 11,000                                                            | A          | \$2.95 | 1,090,616                                                                                     | 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) |
|--------------------------------------------|--------------------------------------------------------|--------------------------------------|----------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|
|                                            |                                                        |                                      |                                                    |                                |                                                                                        | Date Exercisable                                         | Expiration Date |                                                                                   |                                            |                                                                                                    |                                                           |                                                        |
|                                            |                                                        |                                      |                                                    | Code                           | V                                                                                      | (A)                                                      | (D)             | Title                                                                             | Amount or Number of Shares                 |                                                                                                    |                                                           |                                                        |

Explanation of Responses:

Remarks:

/s/ Yaky Yanay

\*\* Signature of Reporting Person

09/23/2014

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.**