

## FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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

## OMB APPROVAL

OMB Number:  
Expires:  
Estimated average  
burden hours  
per response

3235-0287  
February 28, 2011  
0.5

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol <b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>					5. Relationship of Reporting Person(s) to Issuer (Check all applicable)				
<b>BEN-YORAM ISRAEL 0001320556</b>								<input checked="" type="checkbox"/> Director      10% Owner <input type="checkbox"/> Officer (give title below)      Other (specify below)				
(Last)	(First)	(Middle)										
<b>24 BARKAN STREET</b>												
			3. Date of Earliest Transaction (Month/Day/Year) <b>05/18/2011</b>					6. Individual or Joint/Group Filing (Check Applicable Line)				
								<input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person				
			4. If Amendment, Date of Original Filed (Month/Day/Year)									
(City)      (State)      (Zip)												

**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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		42,860	A	\$0	207,708	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	(A)	(D)	Date Exercisable	Expiration Date	Title	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.

**Remarks:**/s/ Israel Ben-Yoram

\*\* Signature of Reporting Person

05/19/2011

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).

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OMB APPROVAL		
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Estimated average burden hours per response	0.5	

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol PLURISTEM THERAPEUTICS INC [ PSTI ]			5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
SHORRER DORON 0001268788						<input checked="" type="checkbox"/> Director	10% Owner	
(Last)	(First)	(Middle)				<input type="checkbox"/> Officer (give title below)	Other (specify below)	
333 KHORE HADOROT ST								
(Street)								
JERUSALEM L3 93393								
(City) (State) (Zip)								
3. Date of Earliest Transaction (Month/Day/Year) 05/18/2011								
4. If Amendment, Date of Original Filed (Month/Day/Year)								
6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> 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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		42,860	A	\$0	212,208	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	(A)	(D)	Date Exercisable	Expiration Date	Title	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.

## Remarks:

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).

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/s/ Doron Shorrer

\*\* Signature of Reporting Person

05/19/2011

Date

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## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**  
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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

OMB Number:  
Expires:  
Estimated average  
burden hours  
per response

3235-0287  
February 28, 2011  
0.5

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol <b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>					5. Relationship of Reporting Person(s) to Issuer (Check all applicable)				
MERETZKI HAVA 0001268789								<input checked="" type="checkbox"/> Director      10% Owner <input type="checkbox"/> Officer (give title below)      Other (specify below)				
(Last)	(First)	(Middle)										
38 RAUL WALLENBERG ST.			3. Date of Earliest Transaction (Month/Day/Year) <b>05/18/2011</b>									
(Street)												
HAIFA	L3	34990										
(City)	(State)	(Zip)	4. If Amendment, Date of Original Filed (Month/Day/Year)					6. Individual or Joint/Group Filing (Check Applicable Line)				
								<input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> 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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		42,860	A	\$0	165,208	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	(A)	(D)	Date Exercisable	Expiration Date	Title	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.

**Remarks:**/s/ Hava Meretzki

\*\* Signature of Reporting Person

05/19/2011

Date

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

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UNITED STATES SECURITIES AND EXCHANGE  
COMMISSION  
Washington, D.C. 20549

## OMB APPROVAL

OMB Number: 3235-0287  
 Expires: February 28, 2011  
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 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,  
 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*			2. Issuer Name and Ticker or Trading Symbol <b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>					5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
BRAUN ISAAC 0001336384								<input checked="" type="checkbox"/> Director      10% Owner <input type="checkbox"/> Officer (give title below)      Other (specify below)		
(Last)	(First)	(Middle)								
9 ZEHARIA STREET										
(Street)										
BENE BARAK L3 51540										
(City)	(State)	(Zip)								

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	05/18/2011 <sup>(1)</sup>		A		42,860	A	\$0	165,208	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		(A)	(D)					

## 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.

## Remarks:

/s/ Isaac Braun

\*\* Signature of Reporting Person

05/19/2011

Date

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

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**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**  
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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

OMB Number:  
Expires:  
Estimated average  
burden hours  
per response

3235-0287  
February 28, 2011  
0.5

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol <b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>					5. Relationship of Reporting Person(s) to Issuer (Check all applicable)				
GERMAIN MARK 0001195498								<input checked="" type="checkbox"/> Director      10% Owner <input type="checkbox"/> Officer (give title below)      Other (specify below)				
(Last)	(First)	(Middle)										
415 GREENWICH STREET, APT 4E												
(Street)												
NEW YORK NY 10013												
(City)	(State)	(Zip)										

**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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		42,860	A	\$0	197,208	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	(A)	(D)	Date Exercisable	Expiration Date	Title	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.

**Remarks:**/s/ Mark Germain

\*\* Signature of Reporting Person

05/19/2011

Date

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

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OMB APPROVAL		
OMB Number:		3235-0287
Expires:		February 28, 2011
Estimated average burden hours per response	0.5	

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol PLURISTEM THERAPEUTICS INC [ PSTI ]			5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
Pines Shai 0001452430						<input checked="" type="checkbox"/> Director	10% Owner	
(Last)	(First)	(Middle)				<input type="checkbox"/> Officer (give title below)	Other (specify below)	
3 SMADAR ST.								
(Street)								
SAVION L3 56546								
(City) (State) (Zip)								
3. Date of Earliest Transaction (Month/Day/Year) 05/18/2011								
4. If Amendment, Date of Original Filed (Month/Day/Year)								
6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> 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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		42,860	A	\$0	159,708	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)
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1. The shares vest as follows: 25% after 6 months from grant and the remaining shares vest in 6 equal installments every 3 months.

## Remarks:

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/s/ Shai Pines

\*\* Signature of Reporting Person

05/19/2011

Date

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1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol <b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>			5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
ROSMAN NACHUM 0001415890						<input checked="" type="checkbox"/> Director      10% Owner <input type="checkbox"/> Officer (give title below)      Other (specify below)		
(Last)	(First)	(Middle)						
7 FINESTEIN ST.								
(Street)								
TEL-AVIV      L3      69123								
(City)      (State)      (Zip)								
3. Date of Earliest Transaction (Month/Day/Year) <b>05/18/2011</b>								
4. If Amendment, Date of Original Filed (Month/Day/Year)								
6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> 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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		42,860	A	\$0	205,208	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		(A)	(D)	Date Exercisable	Expiration Date	Title		

**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.

**Remarks:**/s/ Nachum Rosman

\*\* Signature of Reporting Person

05/19/2011

Date

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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

<b>OMB APPROVAL</b>	
OMB Number:	3235-0281
Expires:	February 28, 2011
Estimated average burden hours per response	0.5

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol <b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>		5. Relationship of Reporting Person(s) to Issuer (Check all applicable)	
<b>YANAY YAKY 0001402539</b>					Director 10% Owner	
(Last)	(First)	(Middle)			<input checked="" type="checkbox"/> Officer (give title below) Other (specify below)	
<b>ARGAMAN 14</b>					<b>Chief Financial Officer</b>	
(Street)			3. Date of Earliest Transaction (Month/Day/Year) <b>05/18/2011</b>			
<b>SHIMSHIT</b>			4. If Amendment, Date of Original Filed (Month/Day/Year)			
			6. Individual or Joint/Group Filing (Check Applicable Line)			
			<input checked="" type="checkbox"/> Form filed by One Reporting Person			
			Form filed by More than One Reporting Person			
(City)			(State)			
			(Zip)			

**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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		150,000	A	\$0	536,543	D

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

Information About Derivative Securities Acquired or Disposed of, but Not Yet Exercised or Converted into Equity															
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	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

### Remarks:

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.

/s/ Yaky Yanay

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**\*\* Signature of Reporting Person**

05/19/2011

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Date

## FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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Instruction 1(b).

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**  
Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
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## OMB APPROVAL

OMB Number:  
Expires:  
Estimated average  
burden hours  
per response

3235-0287  
February 28, 2011  
0.5

1. Name and Address of Reporting Person*			2. Issuer Name and Ticker or Trading Symbol <b>PLURISTEM THERAPEUTICS INC [ PSTI ]</b>			5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
Aberman Zami 0001344740						<input checked="" type="checkbox"/> Director      10% Owner <input checked="" type="checkbox"/> Officer (give title below)      Other (specify below) <b>CEO &amp; Chairman</b>		
(Last)	(First)	(Middle)						
46 HATAPUZ ST.								
(Street)								
TELMOND	L3	40600						
(City)	(State)	(Zip)						
			3. Date of Earliest Transaction (Month/Day/Year) <b>05/18/2011</b>			4. If Amendment, Date of Original Filed (Month/Day/Year)		
						6. Individual or Joint/Group Filing (Check Applicable Line)		
						<input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> 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)			
Common Stock	05/18/2011 <sup>(1)</sup>		A		150,000	A	\$0	999,151	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		(A)	(D)	Date Exercisable	Expiration Date	Title		

**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.10, 2010.

**Remarks:**/s/ Zami Aberman

\*\* Signature of Reporting Person

05/19/2011

Date

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

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