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

Form 10-Q

(Mark One)

☒ QUARTERLY REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended **September 30, 2010**

☐ TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE EXCHANGE ACT

For the transition period from __________ to __________

Commission file number **001-31392**

PLURISTEM THERAPEUTICS INC.

(Exact name of registrant as specified in its charter)

Nevada	**98-0351734**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

MATAM Advanced Technology Park, Building No. 20, Haifa, Israel 31905
(Address of principal executive offices)

+972-74-710-7171
(Registrant's telephone number)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the past 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registration was required to submit and post such files).

Yes ☐ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☐ (Do not check if a smaller reporting company)	Smaller reporting company ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No ☒

State the number of shares outstanding of each of the issuer's classes of common stock as of the latest practicable date: 26,321,149 common shares issued as of November 1, 2010.

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements.

PLURISTEM THERAPEUTICS INC. AND ITS SUBSIDIARY
(A Development Stage Company)

CONSOLIDATED FINANCIAL STATEMENTS

As of September 30, 2010

(unaudited)

PLURISTEM THERAPEUTICS INC. AND ITS SUBSIDIARY
(A Development Stage Company)
CONSOLIDATED FINANCIAL STATEMENTS

As of September 30, 2010

U.S. DOLLARS IN THOUSANDS

(Unaudited)

INDEX

CONSOLIDATED BALANCE SHEETS
U.S. Dollars in thousands

	September 30, 2010	June 30, 2010
	Unaudited	Audited
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 1,127	$ 1,583
Short term bank deposit	517	913
Prepaid expenses	80	41
Accounts receivable from the Office of the Chief Scientist	318	706
Other accounts receivable	71	362
Total current assets	2,113	3,605
LONG-TERM ASSETS:		
Long-term deposits and restricted deposits	169	168
Severance pay fund	327	294
Property and equipment, net	1,756	1,555
Total long-term assets	2,252	2,017
Total assets	$ 4,365	$ 5,622

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED BALANCE SHEETS
U.S. Dollars in thousands

	September 30, 2010 Unaudited	June 30, 2010 Audited
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Trade payables	$ 673	$ 791
Accrued expenses	157	118
Other accounts payable	400	372
Total current liabilities	1,230	1,281
LONG-TERM LIABILITIES		
Accrued severance pay	403	360
	403	360
STOCKHOLDERS' EQUITY		
Share capital:		
Common stock $0.00001 par value:		
Authorized: 100,000,000 shares		
Issued: 21,890,358 shares as of September 30, 2010, 21,458,707 shares as of June 30, 2010.		
Outstanding: 21,169,899 shares as of September 30, 2010, 20,888,781 shares as of June 30, 2010.	-(*)	-(*)
Additional paid-in capital	44,526	44,086
Accumulated deficit during the development stage	(41,794)	(40,105)
	2,732	3,981
	$ 4,365	$ 5,622

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF OPERATIONS (UNAUDITED)

U.S. Dollars in thousands (except share and per share data)

	Three months ended September 30, 2010	Three months ended September 30, 2009	Period from May 11, 2001 (Inception) through September 30, 2010
Research and development expenses	$ 1,501	$ 1,356	$ 24,781
Less participation by the Office of the Chief Scientist	(503)	(489)	(5,575)
Research and development expenses, net	998	867	19,206
General and administrative expenses	756	770	21,267
Know how write-off	-	-	2,474
Operating loss	(1,754)	(1,637)	(42,947)
Financial income, net	65	20	1,153
Net loss for the period	$ (1,689)	$ (1,617)	$ (41,794)
Loss per share:			
Basic and diluted net loss per share	$ (0.08)	$ (0.11)	
Weighted average number of shares used in computing basic and diluted net loss per share	21,012,208	14,522,818	

The accompanying notes are an integral part of the consolidated financial statements.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock		Additional Paid-in Capital	Receipts on Account of Common Stock	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Shares	Amount				
Issuance of common stock on July 9, 2001	175,500	$ (*)	$ 3	$ -	$ -	$ 3
Balance as of June 30, 2001	175,500	(*)	3	-	-	3
Net loss	-	-	-	-	(78)	(78)
Balance as of June 30, 2002	175,500	(*)	3	-	(78)	(75)
Issuance of common stock on October 14, 2002, net of issuance expenses of $17	70,665	(*)	83	-	-	83
Forgiveness of debt	-	-	12	-	-	12
Stock cancelled on March 19, 2003	(136,500)	(*)	(*)	-	-	-
Receipts on account of stock and warrants, net of finders and legal fees of $56	-	-	-	933	-	933
Net loss	-	-	-	-	(463)	(463)
Balance as of June 30, 2003	109,665	$ (*)	$ 98	$ 933	$ (541)	$ 490

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Receipts on Account of Common Stock	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
Balance as of July 1, 2003	109,665	$ (*)	$ 98	$ 933	$ (541)	$ 490
Issuance of common stock on July 16, 2003, net of issuance expenses of $70	3,628	(*)	1,236	(933)	-	303
Issuance of common stock on January 20, 2004	15,000	(*)	-	-	-	(*)
Issuance of warrants on January 20, 2004 for finder's fee	-	-	192	-	-	192
Common stock granted to consultants on February 11, 2004	5,000	(*)	800	-	-	800
Stock based compensation related to warrants granted to consultants on December 31, 2003	-	-	358	-	-	358
Exercise of warrants on April 19, 2004	1,500	(*)	225	-	-	225
Net loss for the year	-	-	-	-	(2,011)	(2,011)
Balance as of June 30, 2004	134,793	$ (*)	$ 2,909	$ -	$ (2,552)	$ 357

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock		Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Shares	Amount			
Balance as of July 1, 2004	134,793	$ (*)	$ 2,909	$ (2,552)	$ 357
Stock-based compensation related to warrants granted to consultants on September 30, 2004	-	-	162	-	162
Issuance of common stock and warrants on November 30, 2004 related to the October 2004 Agreement net of issuance costs of $29	16,250	(*)	296	-	296
Issuance of common stock and warrants on January 26, 2005 related to the October 2004 Agreement net of issuance costs of $5	21,500	(*)	425	-	425
Issuance of common stock and warrants on January 31, 2005 related to the January 31, 2005 Agreement	35,000	(*)	-	-	(*)
Issuance of common stock and options on February 15, 2005 to former director of the Company	250	(*)	14	-	14
Issuance of common stock and warrants on February 16, 2005 related to the January 31, 2005 Agreement	25,000	(*)	-	-	(*)

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STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock		Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Shares	Amount			
Issuance of warrants on February 16, 2005 for finder fee related to the January 31, 2005 Agreement	-	-	144	-	144
Issuance of common stock and warrants on March 3, 2005 related to the January 24, 2005 Agreement net of issuance costs of $24	60,000	(*)	1,176	-	1,176
Issuance of common stock on March 3, 2005 for finder fee related to the January 24, 2005 Agreement	9,225	(*)	(*)	-	-
Issuance of common stock and warrants on March 3, 2005 related to the October 2004 Agreement net of issuance costs of $6	3,750	(*)	69	-	69
Issuance of common stock and warrants to the Chief Executive Officer on March 23, 2005	12,000	(*)	696	-	696
Issuance of common stock on March 23, 2005 related to the October 2004 Agreement	1,000	(*)	20	-	20

(*) Less than $1.

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STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock		Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Shares	Amount			
Classification of a liability in respect of warrants to additional paid in capital, net of issuance costs of $ 178	-	-	542	-	542
Net loss for the year	-	-	-	(2,098)	(2,098)
Balance as of June 30, 2005	318,768	(*)	6,453	(4,650)	1,803
Exercise of warrants on November 28, 2005 to finders related to the January 24, 2005 agreement	400	(*)	-	-	-
Exercise of warrants on January 25 ,2006 to finders related to the January 25, 2005 Agreement	50	(*)	-	-	-
Reclassification of warrants from equity to liabilities due to application of ASC 815-40	-	-	(8)	-	(8)
Net loss for the year	-	-	-	(2,439)	(2,439)
Balance as of June 30, 2006	319,218	$ (*)	$ 6,445	$ (7,089)	$ (644)

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Receipts on Account of Common Stock	Accumulated Other Comprehensive Loss	Deficit Accumulated During the Development Stage	Total Stockholders' Equity
Balance as of July 1, 2006	319,218	$ (*)	$ 6,445	$ -	$ -	$ (7,089)	$ (644)
Conversion of convertible debenture, net of issuance costs of $440	1,019,815	(*)	1,787	-	-	-	1,787
Classification of a liability in respect of warrants	-	-	360	-	-	-	360
Classification of deferred issuance expenses	-	-	(379)	-	-	-	(379)
Classification of a liability in respect of options granted to non-employees consultants	-	-	116	-	-	-	116
Compensation related to options granted to employees and directors	-	-	2,386	-	-	-	2,386
Compensation related to options granted to non-employee consultants	-	-	938	-	-	-	938
Exercise of warrants related to the April 3, 2006 agreement net of issuance costs of $114	75,692	(*)	1,022	-	-	-	1,022

(*) Less than $1.

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STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Receipts on Account of Common Stock	Accumulated Other Comprehensive Loss	Deficit Accumulated During the Development Stage	Total Stockholders' Equity	Total Comprehensive Loss
Cashless exercise of warrants related to the April 3, 2006 agreement	46,674	(*)	(*)	-	-	-	-	
Issuance of common stock on May and June 2007 related to the May 14, 2007 agreement, net of issuance costs of $64	3,126,177	(*)	7,751	-	-	-	7,751	
Receipts on account of shares	-	-	-	368	-	-	368	
Cashless exercise of warrants related to the May 14, 2007 issuance	366,534	(*)	(*)	-	-	-	-	
Issuance of warrants to investors related to the May 14, 2007 agreement	-	-	651	-	-	-	651	
Unrealized loss on available for sale securities	-	-	-	-	(30)	-	(30)	$ (30)
Net loss for the year	-	-	-	-	-	(8,429)	(8,429)	(8,429)
Balance as of June 30, 2007	4,954,110	$ (*)	$ 21,077	$ 368	$ (30)	$ (15,518)	$ 5,897	-
Total comprehensive loss								$ (8,459)

(*) Less than $1.

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STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock		Additional Paid-in Capital	Receipts on Account of Common Stock	Accumulated Other Comprehensive Loss	Deficit Accumulated During the Development Stage	Total Stockholders' Equity	Total Comprehensive Loss
	Shares	Amount						
Balance as of July 1, 2007	4,954,110	$ (*)	$ 21,077	$ 368	$ (30)	$ (15,518)	$ 5,897	
Issuance of common stock related to investors relation agreements	69,500	(*)	275	-	-	-	275	
Issuance of common stock in July 2007 - June 2008 related to the May 14, 2007 Agreement	908,408	(*)	2,246	(368)	-	-	1,878	
Cashless exercise of warrants related to the May 14, 2007 Agreement	1,009,697	(*)	(*)	-	-	-	-	
Compensation related to options granted to employees and directors	-	-	4,204	-	-	-	4,204	
Compensation related to options granted to non–employees consultants	-	-	543	-	-	-	543	
Realized loss on available for sale securities	-	-	-	-	30	-	30	$ 30
Net loss for the year	-	-	-	-	-	(10,498)	(10,498)	(10,498)
Balance as of June 30, 2008	6,941,715	$ (*)	$ 28,345	$ -	$ -	$ (26,016)	$ 2,329	
Total comprehensive loss								$ (10,468)

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock				Additional Paid-in Capital		Deficit Accumulated During the Development Stage		Total Stockholders' Equity
	Shares		Amount						
Balance as of July 1, 2008	6,941,715	$	(*)	$	28,345	$	(26,016)	$	2,329
Issuance of common stock related to investor relations agreements	171,389		(*)		133		-		133
Issuance of common stock and warrants related to the August 6, 2008 agreement, net of issuance costs of $125	1,391,304		(*)		1,475		-		1,475
Issuance of common stock and warrants related to the September 2008 agreement, net of issuance costs of $62	900,000		(*)		973		-		973
Issuance of common stock and warrants in November 2008 -January 2009, net of issuance costs of $39	1,746,575		(*)		660		-		660
Issuance of common stock and warrants related to the January 20, 2009 agreement, net of issuance costs of $5	216,818		(*)		90		-		90
Issuance of common stock and warrants related to the January 29, 2009 agreement, net of issuance costs of $90	969,826		(*)		1,035		-		1,035
Issuance of common stock and warrants related to the May 5, 2009 agreement, net of issuance costs of $104	888,406		(*)		1,229		-		1,229
Compensation related to options granted to employees and directors	-		-		1,315		-		1,315
Compensation related to options and warrants granted to non–employee consultants	-		-		97		-		97
Compensation related to restricted stock granted to employees and directors	427,228		(*)		642		-		642
Compensation related to restricted stock granted to non–employee consultants	23,625		(*)		52		-		52
Net loss for the period	-		-		-		(6,636)		(6,636)
Balance as of June 30, 2009	13,676,886	$	(*)	$	36,046	$	(32,652)	$	3,394

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY)

U.S. Dollars in thousands (except share and per share data)

	Common Stock		Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Equity
	Shares	Amount			
Balance as of July 1, 2009	13,676,886	$ (*)	$ 36,046	$ (32,652)	$ 3,394
Issuance of common stock and warrants related to November 2008 through January 2009 agreements (on July 2009)	1,058,708	(*)	794	-	794
Issuance of common stock and warrants related to October 2009 agreements, net of issuance costs of $242	2,702,822	(*)	2,785	-	2,785
Issuance of common stock and warrants related to April 2010 agreements, net of issuance costs of $54	2,393,329	(*)	2,627	-	2,627
Issuance of common stock related to investor relations agreements	1,929	(*)	13	-	13
Exercise of options by employee	3,747	(*)	2	-	2
Compensation related to options granted to employees and directors	-	-	211	-	211
Compensation related to options and warrants granted to non–employee consultants	-	-	161	-	161
Compensation related to restricted stock and restricted stock units granted to employees and directors	981,586	(*)	1,357	-	1,357
Compensation related to restricted stock and restricted stock units granted to non–employee consultants	69,774	(*)	90	-	90
Net loss for the period	-	-	-	(7,453)	(7,453)
Balance as of June 30, 2010	20,888,781	$ (*)	$ 44,086	$ (40,105)	$ 3,981

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIENCY) (UNAUDITED)

U.S. Dollars in thousands (except share and per share data)

	Common Stock		Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Total Stockholders' Equity
	Shares	Amount			
Balance as of July 1, 2010	20,888,781	$ (*)	$ 44,086	$ (40,105)	$ 3,981
Compensation related to options granted to employees and directors	-	-	6	-	6
Compensation related to options and warrants granted to non–employee consultants	-	-	11	-	11
Compensation related to restricted stock and restricted stock units granted to employees and directors	242,260	(*)	368	-	368
Compensation related to restricted stock and restricted stock units granted to non–employee consultants	38,858	(*)	55	-	55
Net loss for the period	-	-	-	(1,689)	(1,689)
Balance as of September 30, 2010	21,169,899	$ (*)	$ 44,526	$ (41,794)	$ 2,732

(*) Less than $1.

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

U.S. Dollars in thousands

	Three months ended September 30, 2010	Three months ended September 30, 2009	Period from May 11, 2001 (inception) Through September 30, 2010
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (1,689)	$ (1,617)	$ (41,794)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	70	47	822
Capital loss	8	-	12
Impairment of property and equipment	-	-	54
Know-how write-off	-	-	2,474
Amortization of deferred issuance costs	-	-	604
Stock-based compensation to employees and directors	374	402	10,489
Stock-based compensation to non-employees consultants	88	90	2,637
Stock compensation to investor relations consultants	36	8	1,249
Know-how licensors – imputed interest	-	-	55
Salary grant in shares and warrants	-	-	711
Decrease (increase) in other accounts receivable	425	169	(367)
Decrease (increase) in prepaid expenses	(39)	(29)	10
Increase (decrease) in trade payables	1	(45)	590
Increase in other accounts payable and accrued expenses	33	24	18
Increase in interest receivable on short-term deposit	(4)	-	(19)
Increase in accrued interest due to related parties	-	-	3
Linkage differences and interest on long-term restricted lease deposit	(1)	-	(2)
Change in fair value of liability in respect of warrants	-	-	(2,696)
Fair value of warrants granted to investors	-	-	651
Amortization of discount and changes in accrued interest on convertible debentures	-	-	128
Amortization of discount and changes in accrued interest from marketable securities	-	-	(9)
Loss from sale of investments of available-for-sale marketable securities	-	-	106
Impairment and realized loss on available-for-sale marketable securities	-	-	372
Accrued severance pay, net	10	10	76
Net cash used in operating activities	$ (688)	$ (941)	$ (23,826)

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

U.S. Dollars in thousands

	Three months ended September 30, 2010	Three months ended September 30, 2009	Period from May 11, 2001 (inception) through June 30, 2010
CASH FLOWS FROM INVESTING ACTIVITIES:			
Acquisition of Pluristem Ltd. (1)	$ -	$ -	$ 32
Purchase of property and equipment	(426)	(51)	(2,420)
Investment in short-term deposits	-	-	(2,500)
Repayment of short-term deposits	400	-	2,002
Proceeds from sale of property and equipment	28	-	60
Investment in long-term deposits	-	-	(229)
Repayment of long-term restricted deposit	2	-	69
Purchase of available for sale marketable securities	-	-	(3,784)
Proceeds from sale of available for sale marketable securities	-	-	3,314
Purchase of know-how	-	-	(2,062)
Net cash provided by (used in) investing activities	4	(51)	(5,518)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Issuance of common stock and warrants, net of issuance costs	$ 252	$ 794	$ 27,597
Exercise of warrants and options	-	-	1,024
Issuance of convertible debenture	-	-	2,584
Issuance expenses related to convertible debentures	-	-	(440)
Repayment of know-how licensors	-	-	(300)
Repayment of notes and loan payable to related parties	-	-	(70)
Proceeds from notes and loan payable to related parties	-	-	78
Receipt of long-term loan	-	-	49
Repayment of long-term loan	(24)	-	(51)
Net cash provided by financing activities	228	794	30,471
Increase (decrease) in cash and cash equivalents	(456)	(198)	1,127
Cash and cash equivalents at the beginning of the period	1,583	2,339	-
Cash and cash equivalents at the end of the period	$ 1,127	$ 2,141	$ 1,127

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

U.S. Dollars in thousands

	Three months ended September 30, 2010	Three months ended September 30, 2009	Period from May 11, 2001 (inception) through September 30, 2010
(a) Supplemental disclosure of cash flow activities:			
Cash paid during the period for:			
Taxes paid due to non-deductible expenses	$ 5	$ 1	$ 59
Interest paid	$ -	$ 1	$ 18
(b) Supplemental disclosure of non-cash activities:			
Classification of liabilities and deferred issuance expenses into equity	$ -	$ -	$ 97
Conversion of convertible debenture	$ -	$ -	$ 2,227
Purchase of property and equipment in credit	$ 73	$ 67	$ 73
(1) Acquisition of Pluristem Ltd.			
Fair value of assets acquired and liabilities assumed at the acquisition date:			
Working capital (excluding cash and cash equivalents)			$ (427)
Long-term restricted lease deposit			19
Property and equipment			130
In-process research and development write-off			246
			$ (32)

The accompanying notes are an integral part of the consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 1:-GENERAL

a. Pluristem Therapeutics Inc., a Nevada corporation, was incorporated and commenced operations on May 11, 2001, under the name A. I. Software Inc. which was changed as of June 30, 2003 to Pluristem Life Systems Inc. On November 26, 2007, its name was changed to Pluristem Therapeutics Inc. Pluristem Therapeutics Inc. has a wholly owned subsidiary, Pluristem Ltd. (“the Subsidiary”), which is incorporated under the laws of Israel. Pluristem Therapeutics Inc. and its Subsidiary are referred to as "the Company".

b. The Company is devoting substantially all of its efforts towards conducting research and development of adherent stromal cells production technology and the commercialization of cell therapy products. Accordingly, the Company is considered to be in the development stage, as defined in Accounting Standards Codification ™ (“ASC”) 915. In the course of such activities, the Company has sustained operating losses and expects such losses to continue in the foreseeable future. The Company has not generated any revenues or product sales and has not achieved profitable operations or positive cash flows from operations. The Company's accumulated losses during the development stage aggregated to $41,794 through September 30, 2010 and the Company incurred net loss of $1,689 and negative cash flow from operating activities in the amount of $688 for the three months ended September 30, 2010. There is no assurance that profitable operations, if ever achieved, could be sustained on a continuing basis.

The Company plans to continue to finance its operations with sales of equity securities and research and development grants and in the longer term, from revenues from product sales or licensing of its technology. There are no assurances, however, that the Company will be successful in obtaining an adequate level of financing needed for the long-term development and commercialization of its planned products.

These conditions raise substantial doubt about the Company’s ability to continue as a going concern. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

c. Since December 10, 2007, the Company’s shares of common stock have been traded on the NASDAQ Capital Market under the symbol PSTI. The shares were previously traded on the OTC Bulletin Board under the trading symbol “PLRS.OB”. On May 7, 2007, the Company’s shares also began trading on Europe’s Frankfurt Stock Exchange, under the symbol PJT.

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES

A. The accompanying unaudited interim financial statements of Pluristem Therapeutics Inc., a development stage company, have been prepared in accordance with accounting principles generally accepted in the United States of America and the rules of the Securities and Exchange Commission and should be read in conjunction with the audited financial statements and notes thereto contained in Pluristem’s latest Annual Report filed with the SEC on Form 10-K. In the opinion of management, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of financial position and the results of operations for the interim periods presented have been reflected herein. The results of operations for interim periods are not necessarily indicative of the results to be expected for the full year. Notes to the financial statements that would substantially duplicate the disclosure contained in the audited financial statements for the most recent fiscal year as reported in Form 10-K have been omitted.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES

B. Impact of recently issued accounting standards:

In July 2010, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update 2010-20 "ASU 2010-20" Disclosures about the Credit Quality of Financing Receivables and the Allowance for Credit Losses". ASU 2010-20 is an update of Accounting Standards Codification Topic 310, Receivables. This update requires enhanced disclosures on a disaggregated basis about the nature of the credit risk inherent in the portfolio of financing receivables; how that risk is analyzed and assessed in arriving at the allowance for credit losses; and the changes and reasons for those changes in the allowance for credit losses.

The disclosures required under ASU 2010-20 as of the end of a reporting period are effective for interim and annual reporting periods ending on or after December 15, 2010. The Company does not expect the adoption of the update to have a material impact on its financial condition or results of operations.

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS

a. On December 22, 2009, the Company's authorized common stock was increased from 30,000,000 shares with a par value of $0.00001 per share to 100,000,000 shares with a par value of $0.00001 per share. All shares have equal voting rights and are entitled to one vote per share in all matters to be voted upon by stockholders. The shares have no pre-emptive, subscription, conversion or redemption rights and may be issued only as fully paid and non-assessable shares. Holders of the common stock are entitled to equal ratable rights to dividends and distributions with respect to the common stock, as may be declared by the Board of Directors out of funds legally available.

   On July 1, 2008, the authorized share capital of the Company was increased by authorizing 10,000,000 shares of preferred stock, par value $0.00001 each, with series, rights, preferences, privileges and restrictions as may be designated from time to time by the Company's Board of Directors. No shares of preferred stock have been currently issued.

b. On July 9, 2001, the Company issued 175,500 shares of common stock in consideration for $2.50, which was received on July 27, 2001.

c. On October 14, 2002, the Company issued 70,665 shares of common stock at a price of approximately $1.40 per common share in consideration for $100 before issuance costs of $17. On March 19, 2003, two directors each returned 68,250 shares of common stock with a par value of $2.00 per share, for cancellation, for no consideration.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

d. In July 2003, the Company issued an aggregate of 3,628 units comprised of 3,628 shares of common stock and 7,256 warrants to a group of investors, for total consideration of $1,236 (net of issuance costs of $70), under a private placement. The consideration was paid partly in the year ended June 30, 2003 ($933) and the balance was paid in the year ended June 30, 2004.

In this placement each unit was comprised of one share of common stock and two warrants, the first warrant was exercisable within a year from the date of issuance for one share of common stock at a price of $450 per share. The second warrant is exercisable within five years from the date of issuance for one share of common stock at a price of $540 per share. All the warrants expired unexercised.

e. On January 20, 2004, the Company consummated a private equity placement with a group of investors (the "Investors"). The Company issued 15,000 units in consideration for net proceeds of $1,273 (net of issuance costs of $227). Each unit is comprised of 15,000 shares of common stock and 15,000 warrants. Each warrant is exercisable into one share of common stock at a price of $150 per share, and may be exercised until January 31, 2007. On March 18, 2004, a registration statement on Form SB-2 was declared effective and the above-mentioned common stock was registered for re-sale. If the effectiveness of the Registration Statement is suspended subsequent to the effective date of registration (March 18, 2004), for more than certain permitted periods, as described in the private equity placement agreement, the Company shall pay penalties to the Investors in respect of the liquidated damages.

According to ASC 815-40, the Company classified the warrants as liabilities according to their fair value as remeasured at each reporting period until exercised or expired. Changes in the fair value of the warrants were reported in the statements of operations as financial income or expense.

The Company allocated the gross amount received of $1,500 to the par value of the shares issued ($0.03) and to the liability in respect of the warrants issued ($1,499.97). The amount allocated to the liability was less than the fair value of the warrants at grant date. On January 31, 2007 all the warrants expired unexercised.

In addition, the Company issued 1,500 warrants to finders in connection with this private placement, exercisable into 1,500 common shares at a price of $150 per common share until January 31, 2007. The fair value of the warrants issued in the amounts of $192 was recorded as deferred issuance costs and is amortized over a period of three years. On April 19, 2004, the finders exercised the warrants.

f. In October 2004, the Company consummated a private placement offering ("the October 2004 Agreement") pursuant to which it issued 42,500 units. Each unit is comprised of one share of common stock and one warrant. The warrant is exercisable for one common stock at an exercise price of $60 per share, subject to certain adjustments. The units were issued as follows:

In November 2004, the Company issued according to the October 2004 Agreement 16,250 units comprised of 16,250 shares of common stock and 16,250 warrants to a group of investors, for total consideration of $296 (net of cash issuance costs of $29), and additional 600 warrants to finders as finders' fees.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

f. (cont.)

In January 2005, the Company issued according to the October 2004 Agreement an additional 21,500 units for total consideration of $425 (net of cash issuance costs of $5), and additional 450 warrants were issued to finders as finders' fees.

In March 2005, the Company issued according to the October 2004 Agreement additional 3,750 units for total consideration of $69 (net of cash issuance costs of $6), and additional 175 warrants were issued to finders as finders' fees.

In March 2005, the Company issued according to the October 2004 Agreement 1,000 common shares and 1,000 share purchase warrants to one investor for total consideration of $20 which was paid to the Company in May 2005.

On November 30, 2006, all the warrants expired unexercised.

g. On January 24, 2005, the Company consummated a private placement offering (the "January 24, 2005 Agreement") which was closed on March 3, 2005 and issued 60,000 units in consideration for $1,176 (net of cash issuance costs of $24). Each unit is compromised of one share of common stock and one warrant. The warrant is exercisable for one share of common stock at a price of $60 per share. On November 30, 2006, all the warrants expired unexercised. Under this agreement the Company issued to finders 9,225 shares and 2,375 warrants with exercise price of $500 per share exercisable until November 2007. On November 30, 2007, 1,925 unexercised warrants expired.

h. On January 31, 2005, the Company consummated a private equity placement offering (the "January 31, 2005 Agreement") with a group of investors according to which it issued 60,000 units in consideration for net proceeds of $1,137 (net of issuance costs of $63). Each unit is comprised of one share of common stock and one warrant. Each warrant is exercisable into one share of common stock at a price of $60 per share. The January 31, 2005 Agreement includes a finder's fee of a cash amount equal to 5% of the amount invested ($60) and issuance of warrants for number of shares equal to 5% of the number of shares that were issued (3,000) with an exercise price of $20 per share, subject to certain adjustments, exercisable until November 30, 2006.

According to ASC 815-40, the Company classified the warrants as liabilities according to their fair value as remeasured at each reporting period until exercised or expired. Changes in the fair value of the warrants will be reported in the statements of operations as financial income or expense.

As of the date of the issuance, the Company allocated the gross amount received of $1,200 to the par value of the shares issued ($0.12) and to the liability in respect of the warrants issued ($1,200). Issuance expenses in the amount of $63 and finder's fee in the amount of $144 were recorded as deferred issuance costs. The amount allocated to the liability was less than the fair value of the warrants at grant date. On May 13, 2005, the Registration Statement became effective and the Company was no longer subject to possible penalties. As such, the liability and the deferred issuance costs related to the agreement has been classified to the Stockholders Equity as Additional Paid in Capital. As of May 13, 2005, the fair value of the liability in respect of the warrants issued was $720 and the amount of the deferred issuance costs was $178.

On November 30, 2006, all the warrants expired unexercised.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

i. On March 23, 2005, the Company issued 12,000 shares of common stock and 12,000 options as a bonus to the then Chief Executive Officer, Dr. Shai Meretzki, in connection with the issuance of a Notice of Allowance by the United States Patent Office for patent application number 09/890,401. Salary expenses of $696 were recognized in respect of this bonus based on the quoted market price of the Company's stock and the fair value of the options granted using the Black–Scholes valuation model. On November 30, 2006, all the warrants expired unexercised.

j. On February 11, 2004, the Company issued an aggregate amount of 5,000 shares of common stock to a consultant and service provider as compensation for carrying out investor relations activities during the year 2004. Total compensation, measured as the grant date fair market value of the stock, amounted to $800 and was recorded as an operating expense in the statement of operations in the year ended June 30, 2004.

k. On November 28, 2005, 400 warrants, which were issued to finders as finder fees related to the January 24, 2005 Agreement, were exercised.

l. On January 25, 2006, 50 warrants, which were issued to finders as finder fees related to the January 24, 2005 Agreement, were exercised.

m. Convertible Debenture

On April 3, 2006, the Company issued Senior Secured Convertible Debentures (the "Debentures"), for gross proceeds of $3,000. In conjunction with this financing, the Company issued 236,976 warrants exercisable for three years at an exercise price of $15.00 per share. The Company paid a finder's fee of 10% in cash and issued 47,394 warrants exercisable for three years, half of which are exercisable at $15.00 and half of which are exercisable at $15.40 per share. The Company also issued 5,000 warrants in connection with the separate finder's fee agreement related to the issuance of the debenture exercisable for three years at an exercise price of $15.00 per share.

a. Interest accrued on the Debentures at the rate of 7% per annum, was payable semi-annually on June 30 and December 31 of each year and on conversion and at the maturity date. Interest was payable, at the option of the Company, either (1) in cash, or (2) in shares of common stock at the then applicable conversion price. If the Company failed to deliver stock certificates upon the conversion of the Debentures at the specified time and in the specified manner, the Company was required to make substantial payments to the holders of the Debentures.

b. The warrants, issued as of April 3, 2006, become first exercisable on the 65th day after issuance. Holders of the warrants were entitled to exercise their warrants on a cashless basis following the first anniversary of issuance if the Registration Statement is not in effect at the time of exercise.

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

m. Convertible Debenture (Cont.):

In accordance with ASC 815-40, the Company allocated the consideration paid for the convertible debenture and the warrants as follows:

The warrants were recorded as a liability based on their fair value in the amount of $951 at grant date. The Company estimated the fair value of the warrants using a Black-Scholes option pricing model, with the following assumptions: volatility of 83%, risk free interest rate of 4.8%, dividend yield of 0%, and an expected life of 36 months. Changes in the fair value are recorded as interest income or expense, as applicable.

The fair value of the conversion feature of the debentures at grant date, in the amount of $1,951 was recorded as a liability.

The balance of the consideration, in the amount of $97, was allocated to the debentures. The discount in the amount of $2,903 was amortized according to the effective rate interest method over the debentures contractual period (24 months).

The fair value of the warrants issued as a finder’s fee and the finder’s fee in cash amounted to $535 and were recorded as deferred issuance expenses and are amortized over the Debentures’ contractual period. The Company estimated the fair value of the warrants using a Black - Scholes option pricing model, with the following assumptions: volatility of 83%, risk free interest rate of 4.8%, dividend yield of 0%, and an expected life of 36 months.

According to ASC 815-40, in order to classify warrants and options (other than employee stock options) as equity and not as liabilities, the Company should have sufficient authorized and unissued shares of common stock to provide for settlement of those instruments that may require share settlement. Under the terms of the Debentures, the Company may be required to issue an unlimited number of shares to satisfy the debenture’s contractual requirements. As such, on April 3, 2006, the Company’s warrants and options (other than employee stock options) were classified as liabilities and measured at fair value with changes recognized currently in earnings.

As of November 9, 2006, all of the Debentures, were converted into 969,815 shares. As a result, an amount of $1,787 was reclassified into common stock and additional paid-in capital as follows: from conversion of the feature embedded in convertible debenture ($1,951), convertible debenture ($202), accrued interest ($74) net of issuance expenses in the amount of $440. In addition, the warrants and options to consultants in the amount of $476 and deferred issuance expenses in the amount of $379 were reclassified as equity.

Pursuant to an investor relations agreement dated April 28, 2006, the Company paid in cash an amount of $440 on October 19, 2006 and issued 50,000 common shares on November 9, 2006 to certain service providers following reaching certain milestones regarding the conversion of the Debentures as agreed to by the parties.

During the year ended June 30, 2007, 186,529 of the warrants which were issued on April 3, 2006, were exercised. 75,692 warrants were exercised into shares in consideration for $1,022 (net of cash exercise costs of $114), and 110,836 warrants were exercised cashless into 46,674 shares. On April 30, 2009, the rest of the warrants expired unexercised.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

n. On May 14, 2007, the Company consummated a private equity placement with a group of investors for an equity investment (“May 2007 Agreement”). The Company sought a minimum of $7,000 and up to a maximum of $13,500 for shares of the Company’s common stock at a per share price of $2.50, and warrants to purchase shares at an exercise price of $5.00 exercisable until five years after the closing date of the agreement.

In May 2007, under the May 2007 Agreement, the Company issued 3,126,177 shares of the Company’s common stock and 3,126,177 warrants to purchase the Company’s common stock in consideration for $7,751 (net of cash issuance costs of $64).

During July and August 2007, under the May 2007 Agreement, the Company issued additional 273,828 shares of the Company’s common stock and 273,828 warrants to purchase the Company’s common stock in consideration for $685. The consideration was paid partly prior to the issuance of the shares in the year ended June 30, 2007 ($368) and was recorded as receipts on account of shares and the balance was paid during July and August 2007.

As part of May 2007 Agreement, the Company signed an escrow agreement according to which the Company granted an option to an investor to invest, under the same conditions defined in the May 2007 Agreement, up to $5,000 which will be paid in monthly installments over 10 months starting six months subsequent to the closing date. According to the agreement, in the event that the investor fails to make any of the payments within five days of the payment due date, the option to invest the remaining amount will be cancelled. As a result of this agreement, the Company issued 634,580 shares of the Company’s common stock and 634,580 warrants to purchase the Company’s common stock in consideration for $1,561 (net of cash issuance costs of $25). As of March 31, 2008 the option was cancelled.

The total proceeds related to the May 2007 Agreement accumulated as of June 30, 2008 were $9,997 (net of cash issuance costs of $89), and 4,034,585 shares and 4,034,585 warrants were issued.

In connection with the May 2007 Agreement, the Company issued 275,320 warrants to finders as finders’ fee. The warrants are exercisable for five years from the date of grant at an exercise price of $2.50 per share.

During 2008 and 2007, 1,361,818 and 500,000 warrants related to the May 2007 Agreement were exercised on a cashless basis for 1,009,697 shares of stock and 366,534 shares of stock, respectively.

o. The Company issued 28,398 warrants to the investors related to the May 2007 Agreement as compensation to investors who delivered the invested amount prior to the closing date of the placement. The warrants are exercisable for five years at an exercise price of $2.50 per share. The Company recorded the fair value of the warrants as financial expenses in the amount of $651 in the year ended June 30, 2007. The fair value of these warrants was determined using the Black-Scholes pricing model, assuming a risk free rate of 4.8%, a volatility factor of 128%, dividend yield of 0% and expected life of five years.

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

p. In the May 2007 Agreement, there is a provision that requires the Company for a period of four years (subject to acceleration under certain circumstances) not to sell any of the Company's common stock for less than $0.0125 per share (pre-split price). The May 2007 Agreement provides that any sale below that price must be preceded by consent from each purchaser in the placement.

Since that date, the Company had effected a one-for-200 reverse stock split. The Company decided to proceed and enter into additional security purchase agreements notwithstanding this provision for the following reasons:

- The agreement does not contain any provisions for the adjustment of the specified minimum price in the event of stock splits and the like. If such agreement were to have contained such a provision, the floor price would be $2.50.

- The majority of purchasers in the private placement have sold the stock purchased in the placement, and thus the number of purchasers whose consent is purportedly required has been substantially reduced. The number of shares outstanding as to which this provision currently applies according the information supplied by transfer agent is 2 million shares.

- An agreement that prevents the Company's Board of Directors from issuing shares that are necessary to finance the Company's business may be unenforceable.

It is unclear what could be the consequences of a court decision that the issuance of shares below $2.50 per share violates the May 2007 Agreement.

In connection therewith, the Company approved the issuance of warrants to purchase up to 161,724 shares of its common stock to each of the investors who was a party to the May 2007 Agreement that held shares purchased pursuant to such agreement, as of August 6, 2008, conditioned on having the investors execute a general release pursuant to which the Company will be released from liability including, but not limited to, any claims, demands, or causes of action arising out of, relating to, or regarding sales of certain equity securities notwithstanding the above mentioned provision. As of September 30, 2010 the Company received a general release from part of the investors, and issued them warrants to purchase 105,583 shares of its common stock.

q. On August 6, 2008, the Company sold 1,391,304 shares of the Company's common stock and warrants to purchase 695,652 shares of common stock at an exercise price of $1.90 to two investors in consideration of $1,600 pursuant to terms of a securities purchase agreement. The placement agent received a placement fee equal to 6% of the gross purchase price of the Units (excluding any consideration that may be paid in the future upon exercise of the warrants) as well as warrants to purchase 83,478 shares of common stock at an exercise price of $1.44 per share. The warrants will be exercisable after six months from the closing date through and including August 5, 2013. Total cash issuance costs related to this placement amounted to $125.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

r. On September 22, 2008, the Company sold 900,000 shares of the Company's common stock and warrants to purchase 675,000 shares of common stock to an investor in consideration for $1,035 pursuant to terms of a securities purchase agreement. The price per share of common stock was $1.15, and the exercise price of the warrants is $1.90. The warrants will be exercisable for a period of five years. As part of this transaction, the Company paid a transaction fee to the finders equal to 6% of the actual purchase price and warrants exercisable for five years at an exercise price of $1.50 per share to purchase 54,000 of the Company's shares of common stock. Total cash issuance costs related to this placement amounted to $62.

s. From November 2008 through January 2009, the Company entered into a securities purchase agreement with investors, pursuant to which the Company sold 1,746,575 shares of its common stock at a price of $0.40 per share, for an aggregate purchase price of $699, and issued warrants to purchase up to an additional 1,746,575 shares of common stock with an exercise price of $1.00 per share. The warrants will be exercisable after six months from the closing date and will expire after five years. Pursuant to the agreement, the investors have the option, by notice to the Company no later than 10 business days following the release of an official announcement by the Company that it is initiating its first human clinical trials, to purchase an additional 931,507 shares of common stock at a purchase price of $0.75 per share, for an aggregate purchase price of $699, and receive therewith warrants to purchase up to an additional 931,507 shares of common stock with an exercise price of $1.50 per share.

The issuance costs include $39 in cash and warrants exercisable for five years at an exercise price of $1.00 per share to purchase 96,579 of the Company's shares of common stock.

t. On January 20, 2009, the Company sold 216,818 shares of its common stock and warrants to purchase 216,818 shares of common stock to investors in consideration for $95 pursuant to terms of a securities purchase agreement. The price per share of common stock is $0.44, and the exercise price of the warrants is $1.00 per share. The warrants will be exercisable after six months from the closing date and will expire after five years. Pursuant to the agreement, the investors have the option, by notice to the Company no later than 10 business days following the release of an official announcement by the Company that it is initiating its first human clinical trials, to purchase an additional 127,200 shares of common stock at a purchase price of $0.75 per share, for an aggregate purchase price of $95, and receive therewith warrants to purchase up to an additional 127,200 shares of common stock with an exercise price of $1.50 per share (the "January 20 Option"). The January 20 Option is exercisable within six months from the closing date. As part of this transaction, the Company paid a transaction fee to finders in an amount of $5 in cash and issued them warrants exercisable for two years at an exercise price of $1.00 per share to purchase 12,273 shares of the Company's common stock.

u. On January 29, 2009, the Company entered into a subscription agreement with certain investors, pursuant to which the Company sold to such investors 969,826 units, each unit consisting of one share of common stock and a warrant to purchase one of the Company's share of common stock ("Unit"). The purchase price per Unit was $1.16 and the aggregate purchase price for the said Units was approximately $1,125. The warrants are exercisable 181 days following the issuance thereof for a period of five years thereafter at an exercise price of $1.90 per share. The Company paid a transaction fee to finders in an amount of $90 in cash and issued them warrants exercisable after six months for five years at an exercise price of $1.90 per share to purchase 80,983 shares of the Company's common stock.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

v. On May 5, 2009, the Company entered into securities purchase agreements with two investors pursuant to which the Company sold 888,406 shares of its common stock and warrants to purchase 488,623 shares of common stock in consideration for $1,333. The exercise price of the warrants is $1.96 per share and they will be exercisable for a period of five years commencing six months following the issuance thereof.

The Company paid a transaction fee to finders in an amount of $104 in cash and issued them warrants exercisable after six months for five years at an exercise price of $1.875 per share to purchase 53,304 shares of the Company's common stock.

w. On July 7, 2009, the Company announced that the first patient has been enrolled in a Phase I clinical trial of its PLX-PAD product. Upon the occurrence of such event, certain investors had an option from prior agreements from November 2008 through January 2009 to purchase additional shares and warrants. Accordingly, certain investors purchased in July 2009, 1,058,708 shares of common stock at a purchase price of $0.75 per share, for an aggregate purchase price of $794, and warrants to purchase up to an additional 1,058,708 shares of common stock with an exercise price of $1.50 per share. The warrants are exercisable for a period of 4 years and six months commencing six months following the issuance.

x. On October 12, 2009, certain institutional investors purchased 2,702,822 shares of the Company's common stock and warrants to purchase 1,081,129 shares of common stock. The price per share of common stock was $1.12, and the exercise price of the warrants was $1.60 per share. The warrants will be exercisable for a period of five years commencing six months following the issuance thereof. The gross proceeds received from this offering were approximately $3,027. Total cash costs related to this placement amounted to $242.

y. On April 27, 2010, the Company closed a private placement pursuant to which it sold to certain investors 2,393,329 shares of common stock and warrants to purchase 717,999 shares of common stock and 717,999 shares of common stock, at exercise prices per share of $1.25 (the "$1.25 Warrants") and $1.40 (the "$1.40 Warrants"), respectively. The price per share of common stock was $1.12. The aggregate gross proceeds from the sale of the common stock and the warrants were $2,681. The warrants are exercisable six months following the issuance thereof, for a period of two and a half years and five years thereafter for the $1.25 Warrants and the $1.40 Warrants, respectively.

The Company paid a transaction fee to finders in an amount of $54 in cash and issued them warrants exercisable at an exercise price of $1.12 per share to purchase 146,144 shares of the Company's common stock.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

z. The following table summarizes the issuance of shares of common stock to the Company's investor relations consultants as compensation for their services since July 1, 2007.

Period of service	Number of shares issued	Fair market value of the shares issued at the issuance date	Expenses in the statements of operations for the Year ended June 30, 2008	2009	2010
July – December 2007	10,000	$ 149	$ 149	$ -	$ -
February – July 2008	7,500	18	18	-	-
March - September 2008	3,500	8	6	2	-
April – June 2008	50,000	102	102	-	-
July 2008 – June 2009	16,129	10	-	10	-
July –September 2008	40,000	46	-	46	-
October 2008	750	1	-	1	-
October 2008	20,000	12	-	12	-
December 2008 – November 2009	50,000	24	-	14	10
February – July 2009	9,510	12	-	12	-
February – April 2009	30,000	32	-	32	-
April 2009	3,500	4	-	4	-
July 2009	1,929	3	-	-	3
Total	**242,818**	**$ 421**	**$ 275**	**$ 133**	**$ 13**

The issuance of shares to the consultants was in some cases in addition to cash compensation the consultants were entitled to.

Since July 1, 2010, the Company didn't issue shares to its investors relations consultants.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

aa. Options, warrants, restricted stock and restricted stock units to employees, directors and consultants:

The Company has approved two incentive option plans from 2003 and from 2005 (the “2003 Plan" and the “2005 Plan”, and collectively, the “Plans”). Under these Plans, options, restricted stock and restricted stock units (the “Awards”) may be granted to the Company’s officers, directors, employees and consultants.

Each option granted under the 2005 Plan, as it was amended and restated on January 21, 2009, is exercisable through the expiration date of the 2005 Plan, which is December 31, 2018, unless stated otherwise. The Awards vest over two years from the date of grant, as follows: 25% vests six months after the date of grant, and the remaining Awards vest monthly, in equal instalments over 18 months unless other vesting schedules are specified. Any Awards that are cancelled or forfeited before expiration become available for future grants.

As of September 30, 2010, the number of shares of common stock authorized for issuance under the 2005 Plan amounted to 5,894,354. 551,492 shares are still available for future grant under the 2005 Plan as of June 30, 2010. Under the 2003 Plan 20,500 options are authorized for issuance, and 12,870 options are still available for future grant.

a. Options to employees and directors:

The Company accounted for its options to employees and directors under the fair value method in accordance with ASC 718. A summary of the Company’s share option activity for options granted to employees and directors under the Plans is as follows:

	Three months ended September 30, 2010			
	Number	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms (in years)	Aggregate Intrinsic Value Price
Options outstanding at beginning of period	2,351,919	$ 3.73		
Options forfeited	(5,548)	1.31		
Options outstanding at end of the period	2,346,371	$ 3.74	6.50	$ 537
Options exercisable at the end of the period	2,294,842	$ 3.81	6.47	$ 493
Options vested and expected to vest	2,345,169	$ 3.74	6.50	$ 535

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

aa. Options, warrants, restricted stock and restricted stock units to employees, directors and consultants (cont.):

a. Options to employees and directors (cont.):

Intrinsic value of exercisable options (the difference between the Company's closing stock price on the last trading day in the period and the exercise price, multiplied by the number of in-the-money options) represents the amount that would have been received by the employees and directors option holders had all option holders exercised their options on September 30, 2010. This amount changes based on the fair market value of the Company's common stock.

Compensation expenses related to options granted to employees and directors were recorded as follows:

	Three months ended September 30,		Period from inception through September 30,
	2010	2009	2010
Research and development expenses	$ 4	$ 32	$ 2,584
General and administrative expenses	2	72	5,538
	$ 6	$ 104	$ 8,122

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

aa. Options, warrants, restricted stock and restricted stock units to employees, directors and consultants (cont.):

b. Options and warrants to non-employees:

A summary of the Company's activity related to options and warrants to consultants is as follows:

	Three months ended September 30, 2010			
	Number	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms (in years)	Aggregate Intrinsic Value Price
Options and warrants outstanding at beginning of period	389,750	$ 3.97		
Options and warrants granted				
Options and warrants forfeited	(25,000)	$ 2.5		
Options and warrants outstanding at end of the period	364,750	$ 4.07	6.15	$ 164
Options and warrants exercisable at the end of the period	326,426	$ 4.54	5.84	$ 107
Options and warrants vested and expected to vest	364,750	$ 4.07	6.15	$ 164

Compensation expenses related to options and warrants granted to consultants were recorded as follows:

	Three months ended September 30,		Period from inception through September 30,
	2010	2009	2010
Research and development expenses	$ 10	$ 31	$ 1,616
General and administrative expenses	1	42	802
	$ 11	$ 73	$ 2,418

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

aa. Options, warrants, restricted stock and restricted stock units to employees, directors and consultants (cont.):

c. Restricted stock and restricted stock units to employees and directors:

On August 12, 2010, the Company's Compensation Committee approved a grant of total 270,000 restricted shares to two of the Company's officers as a bonus. The shares will become fully vested upon meeting a certain milestone.

The following table summarizes the activities for unvested restricted stock units and restricted stock granted to employees and directors for the three months ended September 30, 2010:

	Number
Unvested at the beginning of period	1,356,665
Granted	270,000
Forfeited	(21,021)
Vested	(242,260)
Unvested at the end of the period	1,363,384
Expected to vest after September 30, 2010	1,334,806

Compensation expenses related to restricted stock and restricted stock units granted to employees and directors were recorded as follows:

	Three months ended September 30, 2010	Three months ended September 30, 2009	Period from inception through September 30, 2010
Research and development expenses	$ 135	$ 120	$ 967
General and administrative expenses	233	178	1,400
	$ 368	$ 298	$ 2,367

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

aa. Options, warrants, restricted stock and restricted stock units to employees, directors and consultants (cont.):

d. Restricted stock and restricted stock units to consultants:

The following table summarizes the activities for unvested restricted stock units and restricted stock granted to consultants for the three months ended September 30, 2010:

	Number
Unvested at the beginning of period	73,261
Granted	76,106
Forfeited	-
Vested	(58,858)
Unvested at the end of the period	90,509
Expected to vest after September 30, 2010	90,509

Compensation expenses related to restricted stock and restricted stock units granted to consultants were recorded as follows:

	Three months ended September 30,		Period from inception through September 30,
	2010	2009	2010
Research and development expenses	$ 24	$ 17	$ 116
General and administrative expenses	53	-	103
	$ 77	$ 17	$ 219

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 3: - SHARE CAPITAL AND STOCK OPTIONS (CONT.)

bb. Summary of warrants and options:

A summary of all the warrants and options outstanding as of September 30, 2010 is presented in this table:

Warrants / Options	Exercise Price per Share	Options and Warrants for Common Stock	Options and Warrants Exercisable	Weighted Average Remaining Contractual Terms (in years)
Warrants:	$1.00	2,072,245	2,072,245	3.15
	$1.12	146,144	146,144	1.95
	$1.25 – 1.28	817,999	100,000	2.25
	$1.40 - $ 1.50	1,914,185	1,196,186	4.05
	$1.60	1,081,129	1,081,129	4.53
	$1.80 - $ 2.00	3,140,112	3,140,112	3.21
	$2.50	81,898	81,898	1.72
	$4.40	3,750	3,750	0.05
	$5.00	2,394,585	2,394,585	1.74
Total warrants		**11,652,047**	**10,216,049**	
Options:	$0.00	90,000	52,508	8.79
	$0.62	581,115	530,211	7.91
	$1.04	90,006	88,549	7.45
	$2.97	20,000	20,000	7.61
	$3.50	1,020,761	1,020,761	5.78
	$3.72 - $ 3.80	36,116	36,116	5.53
	$4.00	42,500	42,500	6.05
	$4.38 - $ 4.40	480,407	480,407	6.57
	$6.80	36,250	36,250	7.12
	$8.20	48,547	48,547	5.90
	$20.00	146,669	146,669	5.57
Total options		**2,592,371**	**2,502,518**	
Total warrants and options		**14,244,418**	**12,718,567**	

This summary does not include 748,959 shares of restricted stock and 704,934 RSUs that are not vested as of September 30, 2010.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
U.S. Dollars in thousands (except per share amounts)

NOTE 4: - SUBSEQUENT EVENTS

On October 11, 2010 and on October 12, 2010, the Company entered into securities purchase agreements with certain investors, pursuant to which the Company agreed to sell to such investors 4,375,000 shares (“Shares”) of the common stock at a price of $1.20 per share and warrants to purchase 2,625,000 shares of common stock (the “Warrants”), at an exercise price per share of $1.80. No separate consideration was paid for the Warrants. The aggregate net proceeds from the sale of the Shares and the Warrants is approximately $5,009. The closing was on October 18, 2010. The Warrants have a term of four years and are exercisable starting six months following the issuance thereof.

In connection with the purchase agreements, the Company agreed to file a resale registration statement with the Securities and Exchange Commission covering the Shares and the shares of common stock issuable upon the exercise of the Warrants within 60 days from closing.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Forward - Looking Statements

This quarterly report on Form 10-Q contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and Federal securities laws, and is subject to the safe-harbor created by such Act and laws. Forward-looking statements may include statements regarding our goals, beliefs, strategies, objectives, plans, including product and technology developments, future financial conditions, results or projections or current expectations. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expect," "plan," "anticipate," "believe," "estimate," "predict," "potential" or "continue," the negative of such terms, or other comparable terminology. These statements are subject to known and unknown risks, uncertainties, assumptions and other factors that may cause actual results to be materially different from those contemplated by the forward-looking statements. Such forward-looking statements appear in this Item 2 – "Management's Discussion and Analysis of Financial Condition and Results of Operations," and include, but are not limited to, statements regarding the following: the expected development and potential benefits from our products in treating various medical conditions, finishing our Phase I clinical trials, the safety and efficacy of our PLX-PAD product as well as the extent to which it is tolerated, our expectations regarding our short and long-term capital requirements, our plans to raise additional funding, including non-dilutive funding, our outlook for the coming months and information with respect to any other plans and strategies for our business. Our business and operations are subject to substantial risks, which increase the uncertainty inherent in the forward-looking statements contained in this report. Except as required by law, we undertake no obligation to release publicly the result of any revision to these forward-looking statements that may be made to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Further information on potential factors that could affect our business is described under the heading "Risk Factors" in Part I, Item 1A of our Annual Report on Form 10-K for the fiscal year ended June 30, 2010. Readers are also urged to carefully review and consider the various disclosures we have made in that report.

Our financial statements are stated in thousands United States Dollars (U.S.$) and are prepared in accordance with United States Generally Accepted Accounting Principles.

In this quarterly report, unless otherwise specified, all dollar amounts are expressed in United States dollars.

As used in this quarterly report, the terms "we", "us", "our", the "company" and "Pluristem" mean Pluristem Therapeutics Inc. and our wholly owned subsidiary, Pluristem Ltd., unless otherwise indicated or as otherwise required by the context.

Overview

We are a bio-therapeutics company dedicated to the commercialization of non-personalized (allogeneic) cell therapy products for the treatment of several severe degenerative, ischemic and autoimmune disorders. We are developing a pipeline of products, stored ready-to-use, that are derived from human placenta, a non-controversial, non-embryonic, adult stromal cell source. The placental adherent stromal cells (ASCs) are grown in the Company's proprietary PluriX™ three-dimensional bioreactor, which imitates the natural microstructure of the body.

We are currently focusing on clinical indication that the route of administration is intramuscular, which means that the cells are administrated locally to the muscle and not systemically. This route of administration may be applicable for several different indications, such as: peripheral artery disease (PAD), critical limb ischemia (CLI), intermittent claudication, neuropathic pain, wound healing and orthopedic injuries. In addition we reported pre-clinical studies utilizing our proprietary PLX during the systemic administration in treating for multiple sclerosis, ischemic stroke, and inflammatory bowel disease.

Our first product in development, PLX-PAD, is intended to improve the quality of life of millions of people suffering from PAD. Phase I clinical trials for PLX-PAD are now in progress in Germany and the US. The Phase I study is designed to evaluate the safety of using PLX-PAD in patients with CLI, the end stage of PAD.

Following receipt of Food and Drug Administration (FDA) and European authority approvals, we commenced enrollment of patients for our Phase I clinical trials of PLX-PAD in June 2009 in Germany and in September 2009 in the US. A total of 15 patients were enrolled in the trial in Germany. The last patient was dosed in this trial in April 2010, representing the complete patient enrollment in that country. In the US trial, which is performed at three sites, a total of up to 12 adults with the disease will be included.

On September 14, 2010 we announced interim results from our Phase I clinical trials in both the U.S. and Germany utilizing our PLX-PAD product. The 3 month clinical follow-up data include 21 patients, representing 77% of the patients required to complete the Phase I trials. The interim results suggest that PLX-PAD is potentially safe and well tolerated.

Both trials have currently met their primary safety endpoints. Further, the administration of PLX-PAD cells did not induce an immune response in any of the patients dosed, demonstrating that injection of PLX-PAD cells is well tolerated. In addition, the Phase I trials were designed to evaluate certain efficacy parameters, and the interim results suggest that the use of our PLX-PAD product was effective according to such parameters. Such efficacy parameters do not include all parameters required under applicable regulations to determine that our PLX-PAD product is effective, which will be the subject of the next stages of the clinical trials process that we plan to conduct.

We have not generated revenues since our inception. Historically, we have relied on private placement issuances and public offerings of equity, as well as on governmental grants, to fund our operations.

We do not expect to generate revenues from sales of products in the next 12 months, and therefore it is likely that we will need to raise additional working capital to fund our ongoing operations and growth. Cash used for operations will be affected by numerous known and unknown risks and uncertainties including, but not limited to, our ability to successfully develop and commercialize our products and the degree to which competitive products are introduced to the market. Our products will likely not be ready for sale for at least three years, if at all. We believe that the funds we have, which include net proceeds of approximately $5,009,000 from a private offering that we closed on October 18, 2010, together with an approved R&D grant from the Israeli Office of Chief Scientist (the OCS), will be sufficient for operating until at least the end of calendar year of 2011. As long as our cash flows from operations remain insufficient to fund operations, we will continue depleting our financial resources and seeking additional capital through equity financing and governmental grants. If we raise additional funds through the issuance of equity, the percentage ownership of the company held by existing stockholders will be reduced and those stockholders may experience significant dilution. In addition, new securities may contain rights, preferences or privileges that are senior to those of our common stock.

Our independent registered public accounting firm’s report to our financial reports for the fiscal year ended June 30, 2010, stated that there was a substantial doubt that we will be able to continue as a going concern. There can be no assurance that acceptable financing to fund our ongoing operations can be obtained on suitable terms, if at all. If we are unable to obtain the financing necessary to support our operations, we may need to take measures to reduce our operating costs, or, if such measures will not be sufficient, we may be unable to continue as a going concern. In that event, we may be forced to cease operations and our stockholders could lose their entire investment in our company.

RESULTS OF OPERATIONS –THREE MONTHS ENDED SEPTEMBER 30, 2010 COMPARED TO THREE MONTHS ENDED SEPTEMBER 30, 2009.

We have not generated any revenues, and we have negative cash flow from operations of $23,826,000 and have accumulated a deficit of $41,794,000 since our inception in May 2001. This negative cash flow is mostly attributable to research and development, clinical program and general and administrative expenses. We estimate our net operating cash expenses in the next 12 months will be approximately $7,000,000.

Research and Development

Research and development expenses, net of participation of the OCS, for the three months ended September 30, 2010 increased by 15% from $867,000 for the three months ended September 30, 2009 to $998,000. The increase is attributed to salaries and benefits expenses as a result of hiring 11 new employees to support our clinical trials activity since September 2009.

General and Administrative

General and administrative expenses for the three months ended September 30, 2010 decreased slightly by 2% from $770,000 for the three months ended September 30, 2009 to $756,000.

Financial Income, net

Financial income increased from $20,000 for the three months ended September 30, 2009 to $65,000 for the three months ended September 30, 2010 due to exchange rate adjustments.

Net Loss

Net loss for the three months ended September 30, 2010 was $1,689,000, as compared to net loss of $1,617,000 for the three months ended September 30, 2009. Net loss per share for the three months ended September 30, 2010 was $0.08, as compared to $0.11 for the three months ended September 30, 2009. The net loss per share decreased as a result of the increase in the weighted average number of our shares following issuances of additional shares since September 30, 2009.

Liquidity and Capital Resources

As of September 30, 2010, total current assets were $2,113,000 and total current liabilities were $1,230,000. On September 30, 2010, we had a working capital surplus of $883,000 and an accumulated deficit of $41,794,000. We finance our operations and plan to continue doing so with issuances of securities and with funds from grants from the OCS.

Cash and cash equivalents as of September 30, 2010 amounted to $1,127,000. This is a decrease of $456,000 from the $1,583,000 reported as of June 30, 2010. Cash balances decreased in the three months ended September 30, 2010 for the reasons presented below.

Operating activities used cash of $688,000 in the three months ended September 30, 2010. Cash used by operating activities in the three months ended September 30, 2010 primarily consisted of payments of salaries to our employees, and payments of fees to our consultants, subcontractors and professional services providers including costs of the clinical trials, less research and development grants by the OCS.

Investing activities provided cash of $4,000 in the three months ended September 30, 2010. The investing activities consisted primarily of repayments of short-term deposits, offset by investments in equipment for our R&D facilities and construction of a new research lab.

Financing activities generated cash of $228,000 during the three months ended September 30, 2010 substantially all of such amount is attributable to the April 2010 offerings.

On October 11, 2010 and on October 12, 2010, we entered into securities purchase agreements with certain investors, pursuant to which we sold to such investors 4,375,000 shares (Shares) of our Common stock (Common Stock) at a price of $1.20 per share and warrants to purchase 2,625,000 shares of common Stock (collectively, Warrants), at an exercise price per share of $1.80. No separate consideration was paid for the Warrants. The aggregate gross proceeds from the sale of the Shares and the Warrants was approximately $5,250,000, which, less placement agent fees and other related expenses, resulted in net proceeds of approximately $5,009,000. The closing was on October 18, 2010. The Warrants have a term of four years and are exercisable starting six months following the issuance thereof.

Leader Underwriters (1993) Ltd. which acted as lead placement agent in Israel, and Rodman & Renshaw, LLC, which acted as U.S. placement agent, received cash compensation of $203,233 and warrants to purchase 119,950 shares of Common Stock, on the same terms as the Warrants.

We believe that the funds we have, together with the approved R&D grant from the OCS, will be sufficient for operating until at least the end of calendar year of 2011.

Our independent registered public accounting firm's report to our financial reports for the fiscal year ended June 30, 2010, states that there is a substantial doubt that we will be able to continue as a going concern. Our management believes that we will need to raise additional funds before we have any cash flow from operations. We are continually looking for sources of funding, including non-diluting sources such as the OCS grants. We have an effective shelf registration statement which we have used in recent public offerings we made and may continue to use in the future to raise additional funds.

Off Balance Sheet Arrangements

We have no off balance sheet arrangements.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures **-** We maintain a system of disclosure controls and procedures that are designed for the purposes of ensuring that information required to be disclosed in our SEC reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer (CEO) and our Chief Financial Officer (CFO), as appropriate to allow timely decisions regarding required disclosures.

As of the end of the period covered by this report, we carried out an evaluation, under the supervision and with the participation of our CEO and our CFO, of the effectiveness of our disclosure controls and procedures as defined in Rule 13a-15(e) of the Securities Exchange Act of 1934, as amended. Based on that evaluation, our CEO and CFO concluded that our disclosure controls and procedures are effective.

Changes in Internal Control Over Financial Reporting - There has been no change in our internal control over financial reporting during the first quarter of fiscal 2011 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 6. Exhibits.

31.1*	Rule 13a-14(a) Certification of Chief Executive Officer.
31.2*	Rule 13a-14(a) Certification of Chief Financial Officer.
32.1**	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350.
32.2**	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350.

* Filed herewith.

** Furnished herewith.

SIGNATURES

In accordance with the requirements of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PLURISTEM THERAPEUTICS INC.

By: /s/ Zami Aberman
Zami Aberman, Chief Executive Officer
(Principal Executive Officer)
Date: November 8 , 2010

By: /s/ Yaky Yanay
Yaky Yanay, Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)
Date: November 8, 2010

Exhibit 31.1

CERTIFICATION

I, Zami Aberman, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Pluristem Therapeutics Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13(a)-15(f) and 15d-15(f)) of the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8 , 2010

/s/ Zami Aberman

Zami Aberman
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION

I, Yaky Yanay, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Pluristem Therapeutics Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13(a)-15(f) and 15d-15(f)) of the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2010

/s/ Yaky Yanay

Yaky Yanay
Chief Financial Officer and Secretary
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report (the “Report”) of Pluristem Therapeutics Inc. (the “Company”) on Form 10-Q for the period ended September 30, 2010, as filed with the Securities and Exchange Commission on the date hereof, I, Zami Aberman, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 8, 2010

By: /s/ Zami Aberman

Zami Aberman
Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report (the “Report”) of Pluristem Therapeutics Inc. (the “Company”) on Form 10-Q for the period ended September 30, 2010, as filed with the Securities and Exchange Commission on the date hereof, I, Yaky Yany, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 8, 2010

By: /s/ Yaky Yanay

Yaky Yanay
Chief Financial Officer