



DIVISION OF  
CORPORATION FINANCE

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

May 11, 2011

Yaky Yanay  
Chief Financial Officer  
(Principal Financial and Accounting Officer)  
Pluristem Therapeutics, Inc.  
MATAM Advanced Technology Park  
Building No. 20  
Haifa, Israel 31905

**Re: Pluristem Therapeutics, Inc**  
**Form 10-K for Fiscal Year Ended June 30, 2010**  
**Filed September 21, 2010**  
**File No. 001-31392**

Dear Mr. Yanay:

We have completed our review of your filing. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filing and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

Joel Parker  
Accounting Branch Chief