Pluristem to Initiate a Phase I/II Clinical Trial in Muscle Injury

Product Candidate Targets Orthopedic and Sports Injuries, Addresses a Multi-Billion Dollar Annual Market

HAIFA, ISRAEL, November 14, 2012 -- Pluristem Therapeutics, Inc. (NASDAQCM:PSTI; TASE: PLTR), a leading developer of placenta-based cell therapies, today announced it has initiated a Phase I/II clinical trial to evaluate the safety and efficacy of its PLacental Expanded (PLX) cells in the treatment of muscle injury. As previously reported, the Paul Ehrlich Institute (PEI), the German competent authority in the European Union, has granted the Company clearance to start the trial which will be conducted at the Klinik für Orthopädie on the campus of the Charité Universitätsmedizin in Berlin, Germany.

“Pluristem considers this clinical trial to be our entry into the orthopedic and sports medicine markets. The response of the gluteal muscle to our PLX cells will be an indication for us of how well our cells would help various muscle injuries.” stated Zami Aberman, Chairman and CEO of Pluristem.

Study Summary:

In this Phase I/II trial, the muscle injury studied will be the trauma sustained to the gluteal buttock muscle that occurs during hip replacement. The most common type of hip replacement surgery involves splitting the gluteal muscle to obtain access to the hip joint. Previous muscle injury animal studies have demonstrated a significant improvement in rehabilitation function and time by using PLX cells over placebo. The endpoint of this study is to observe if there is an improvement in the functional recovery of the gluteal muscle as measured by maximal contraction force.

This randomized, double blinded, Phase I/II trial will evaluate the safety and efficacy of two doses of PLX cells versus placebo administered via intramuscular injections directly into the site of the lacerated gluteal muscle before suturing. The study cohort is comprised of approximately 18 patients equally divided between a high and low dose PLX cell group and placebo group.

About Pluristem Therapeutics Inc.

Pluristem Therapeutics Inc. (NasdaqCM: PSTI; TASE: PLTR) is a leading developer of placenta-based cell therapies. The Company's patented PLX (PLacental eXpanded) cells are a drug delivery platform that releases a cocktail of therapeutic proteins in response to a host of local and systemic inflammatory and ischemic diseases. PLX cells are grown using the company's proprietary 3D micro-environmental technology and are an "off-the-shelf" product that requires no tissue matching prior to administration. Pluristem is focusing on the use of PLX cells administered locally to treat systemic diseases and potentially obviating the need to use the intravenous route.

Pluristem has a strong patent portfolio, GMP certified manufacturing and research facilities as well as strategic relationships with major research institutions.

For more information visit www.pluristem.com and follow Pluristem on Twitter @Pluristem, the content of which is not part of this press release.

Contact:

Pluristem Therapeutics Inc.

William Prather R.Ph., M.D.
Sr. VP Corporate Development
1-303-883-4954
William.PratherMD@pluristem.com

Daya Lettvin
Director Investor & Media Relations
+972-54-674-5580
daya@pluristem.com

Safe Harbor Statement

This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995 and federal securities laws. For example, we are using forward looking statements when we discuss the value of the market our Product Candidate Targeting Orthopedic and Sports Injuries addresses. These forward-looking statements are based on the current expectations of the management of Pluristem only, and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. The following factors, among others, could cause actual results to differ materially from those described in the forward-looking statements: changes in technology and market requirements; we may encounter delays or obstacles in launching our clinical trials; our technology may not be validated as we progress further and our methods may not be accepted by the scientific community; we may be unable to retain or attract key employees whose knowledge is essential to the development of our products; unforeseen scientific difficulties may develop with our process; our products may wind up being

more expensive than we anticipate; results in the laboratory may not translate to equally good results in real surgical settings; our patents may not be sufficient; our products may harm recipients; changes in legislation; inability to timely develop and introduce new technologies, products and applications; loss of market share and pressure on pricing resulting from competition, which could cause the actual results or performance of Pluristem to differ materially from those contemplated in such forward-looking statements. Except as otherwise required by law, Pluristem undertakes no obligation to publicly release any revisions to these forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. For a more detailed description of the risks and uncertainties affecting Pluristem, reference is made to Pluristem's reports filed from time to time with the Securities and Exchange Commission.