Pluristem Advances its Intramuscular Hematology Program; Assembles Clinical Advisory Board of World Renowned Opinion Leaders

HAIFA, ISRAEL, December 4, 2012 – Pluristem Therapeutics, Inc. (NASDAQCM: PSTI; TASE:PLTR), a leading developer of placenta-based cell therapies, announced today that the Company has established its Clinical Advisory Board (CAB) in hematology. The CAB includes prestigious physicians, researchers and leaders from the field of hematology from around the world. In a recent meeting between the advisory board and the company, hematological indications for Pluristem's PLacental eXpanded (PLX) cells were evaluated. Pluristem's goal is to commercialize PLX cell products for pressing hematological indications via intramuscularly (IM) injections.

"I am pleased that these knowledgeable and renowned leaders are confident that, based on data presented, PLX cells could have therapeutic potential in several hematological indications," said Zami Aberman, Chairman and CEO of Pluristem. "We believe that the IM administration of PLX cells may become a "game changer" in treating the diseased or injured bone marrow of patients. Following the meeting with the CAB, we have established a process to determine which hematological indications we should advance into clinical trials."

Pluristem is pleased to include the following members into the hematology CAB:

- Fred Appelbaum MD, PhD - President of Seattle Cancer Care Alliance, Senior Vice President and Director of Clinical Research Division of Fred Hutchinson Cancer Research Center, Head of Division of Medical Oncology of University of Washington; Seattle, WA

- Richard Champlin MD - Chair, Department of Blood and Marrow Transplantation at the University of Texas, MD Anderson Cancer Center; Houston, TX. He is Past President of Center for International Blood and Marrow Transplant Research and was the founding President of the American Society for Blood and Marrow Transplantation

- Edwin M. Horwitz, MD, PhD - Director of Cell Therapy in the Division of Oncology / Blood & Marrow Transplantation at Children's Hospital of Philadelphia; Philadelphia, PA

- Hillard M. Lazarus, MD, FACP - Professor of Medicine, Case Western Reserve University, Cleveland, OH, The George & Edith Richman Professor and Distinguished Scientist in Cancer Research, Director, Novel Cell Therapy, University Hospitals Case Medical Center (UHCMC) Medical Director, Cell Therapy Integrated Services (CTIS), National Center for Regenerative Medicine (NCRM), UHCMC

- Reuven Or MD - Director of the Bone Marrow Transplantation and Cancer Immunology, Hadassah Medical Center; Ein Kerem, Israel

- Jacob M Rowe - Chief, Department of Hematology, Shaare Zedek Medical Center, Jerusalem. Emeritus Professor of Hemato-oncology, Bruce Rappaport Faculty of Medicine, Israel Institute of Technology, Haifa, Israel. Adjunct Professor of Medicine, Northwestern University, Chicago, Illinois, USA

Following positive data in the use of PLX cells in preclinical and clinical studies in stimulating the production of blood cells in diseased or injured bone marrow, the company accelerated the development of these cells for use in hematology. By assembling internationally acclaimed thought leaders in the field of hematology, the company stands ready to pursue indications in this area.

About Pluristem Therapeutics

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 development of PLX cells administered locally to potentially treat systemic diseases and potentially obviating the need to use the intravenous route.

Pluristem has a strong patent and patent applications portfolio, company-owned GMP certified manufacturing and research facilities, strategic relationships with major research institutions and a seasoned management team. For more information visit www.pluristem.com, the content of which is not part of this press release.

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, when we say that our goal is to commercialize PLX cell products for pressing hematological indications via intramuscularly (IM) injections, when we discuss that PLX cells could have therapeutic potential in several hematological indications and our readiness to pursue such indications, or when we discuss our belief that the IM administration of PLX cells may become a “game changer” in treating the diseased or injured bone marrow of patients , we are using forward-looking statements. 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 and/or successfully completing our clinical trials; our products may not be approved by regulatory agencies, 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; results of

preclinical studies may not correlate with the results of human clinical trials; 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.

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