Pluristem Develops PLX-RAD Cells for Use in Hematology

Enhancing Hematopoietic Stem Cell Engraftment will be the First Indication

HAIFA, Israel May 7, 2013 -- Pluristem Therapeutics Inc. (NASDAQCM: PSTI) (TASE:PLTR), a leading developer of placenta-based cell therapies, announced today that it has identified its first clinical indication in the hematology field for its Placental eXpanded (PLX) RAD cells for the enhancement of the engraftment of Hematopoietic Stem Cells (HSC) in patients experiencing a delay or failure of their bone marrow transplant (BMT). This follows Pluristem's completion of additional pre-clinical studies showing promising results for PLX-RAD for this indication.

According to the National Marrow Donor Program, an estimated 25,000 allogeneic bone marrow transplants are performed annually worldwide. Approximately 15% of these patients will either have a delay or failure to engraft the HSCs, resulting in a condition that is life threatening, expensive and often requires the continued support of the patient with blood products. PLX-RAD may be beneficial to these patients.

PLX-RAD is currently being evaluated by the U.S. National Institute of Allergy and Infectious Diseases (NIAID), a division of the U.S. National Institutes of Health, in models of the acute radiation syndrome (ARS).

PLX-RAD, Pluristem's second product candidate, joins PLX-PAD that is in clinical trials for the treatment of peripheral artery disease, muscle injury and Pulmonary Hypertension. Both product candidates are derived from placental raw material. The placenta is a very rich source for a variety of cells and Pluristem differentiates these products through the use of different cell populations combined with its proprietary 3D bioreactor manufacturing process that allows the company to change but precisely control the environment in which the cells grow. This results in a stable, consistent change to the therapeutic protein secretion profile of the cell that constitutes the difference between PLX-PAD and PLX-RAD. Pluristem intends to develop additional PLX products by capitalizing on these unique competitive advantages.

PLX-RAD cells have been shown to have an immunomodulatory effect via the secretion of cytokines and proteins that are known to stimulate Hematopoietic Stem Cells (HSC) to enhance the production of white blood cells, red blood cells and platelets. There was also evidence of a significant improvement in the recovery of these three blood lineages in

bone marrow deficient animals compared to control animals.

Zami Aberman, Chairman and CEO stated, “We are very excited to enter the field of hematology with our new PLX-RAD cell product candidate. PLX-RAD’s unique protein secretion profile enables its use in bone marrow deficiency syndromes. This unique characteristic will enable us to provide a product candidate that enables the recovery of the three blood lineages, potentially positioning PLX-RAD as first line treatment in a variety of bone marrow deficiencies.”

About Enhancing HSC Engraftment at Pluristem

The essential element in BMT is the transplantation of Hematopoietic Stem Cells (HSC), the precursor of the formed elements of the blood (red cells, white cells and platelets). BMT is commonly used in the treatment of hematological malignancies to reconstitute the patient’s bone marrow after their diseased marrow is eradicated with chemo or radiotherapy. Approximately 15% of patients undergoing BMT will either have a significant delay or failure to engraft the HSCs contained in the BMT, a condition that is life threatening, expensive and often requires the continued support of the patient with blood products. After demonstrating a significant enhancement of HSC engraftment in animals and in three patients with BMT failure where PLX cells were administered under a compassionate use program, the company established a Hematology Clinical Advisory Board comprised of thought leaders in hematology throughout the world.

About Pluristem Therapeutics

Pluristem Therapeutics Inc. 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 has a strong intellectual property position, 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, we are using forward-looking statements when we discuss the use of our PLX-RAD cells in hematology and how our PLX-RAD may be beneficial to certain patients, when we discuss our intention to develop additional PLX products, when we discuss how PLX-RAD’s unique protein secretion profile will enable the use of PLX-RAD for for bone marrow deficiencies or when we discuss how this unique characteristic will enable us to provide a product candidate that enables the recovery of the three blood lineages. These forward-looking statements and their implications 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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