Pluristem Therapeutics' Cell Therapy Broadens Addressable Markets - Demonstrates Systemic Effectiveness of Intramuscular Delivery

HAIFA, ISRAEL – June 19, 2012 -- Pluristem Therapeutics, Inc. (NASDAQCM:PSTI; TASE: PLTR) announced today at the 2012 Bio International Convention the results of a pre clinical study it conducted measuring the effectiveness of its Placental eXpanded (PLX) cells when administered intramuscularly (IM). Cell therapies are traditionally delivered through intravenous (IV) injections for systemic effect. However, Pluristems' latest findings show that its PLX cells can be effective when injected by needle, into the muscle. Avoiding the use of an IV is simple and more cost-effective. This opens far larger markets for treatments in a wide range of potential outpatient settings and local clinics.

"The ability for IM injections of PLX cells has significant market implications that potentially broaden the indications and frequency with which our cell therapy can be used. We look forward to conducting additional testing of this very promising approach," said Zami Aberman, Chairman and CEO of Pluristem.

The study found that Intramuscularly administered PLX cells are safe, effective, easy to inject and provided systemic therapeutic benefits in a wide range of hematological disorders, as well as primary and secondary bone marrow failure, such as in radiation sickness and possibly for some complications from chemotherapy and radiotherapy.

The results of the study demonstrated a significant survival and recovery rate of bone marrow and peripheral blood counts in animals pre-irradiated by high lethal doses. These findings indicate that the IM route of administration of PLX cells stimulate the hematopoietic stem cells (HSCs) of the bone marrow to produce red and white blood cells as well as platelets crucial for the treatment of hematological disorders. The study was conducted in cooperation with the Sharett Institute of Oncology at Hadassah Hospital in Jerusalem.

"Pluristem is extremely pleased at how convincingly this study's data demonstrates that our PLX cells have the ability to stimulate the HSCs involved in rescuing bone marrow. With PLX cells, we may be able to reverse the traditional mindset that if you want to get

a systemic effect, you need to inject the cells intravenously," said Liat Flaishon, MD. PhD. BD Director and the Head of the Radiation project at Pluristem.

"We had announced on May 9, 2012 the successful treatment of pediatric patient whose bone marrow graft was rescued using our PLX cells. This data demonstrates the basis for the successful treatment. In the treatment conducted by Professor Reuven Or from the Bone Marrow Transplantation Unit at Hadassah, PLX cells were given to this patient intramuscularly as well," added Dr. Flaishon.

Prof. Raphael Gorodetsky, Head of the Laboratory of Biotechnology and Radiobiology in the Cancer Research Laboratories of Sharett Institute of Oncology at Hadassah Hospital, has been conducting the animal studies of Pluristem's PLX cells in the past several months. In these studies PLX cells and control medium were administered intramuscularly to C3H mice previously irradiated by a total body dose of 770cGy. The company previously reported initial results from these studies with respect to Acute Radiation Syndrome.

The key results of the Study include:

1. With PLX cells or the control medium given IM 24 hours and 5 days post irradiation a significant increase in the survival of mice from 27% in controls to 98% at 23 day on wards ($p<0.01$).

2. In comparing the vast majority of the irradiated mice that survived following PLX treatment with the very few survivors of the controls, the following observations were recorded:

    - After an initial sharp fall, a significant increase in the total number of bone marrow cells extracted from the major bones at 23 days was recorded: from~16million cells/mouse to ~32 million cells/mouse in the PLX treated ($p<0.001$). Non-irradiated animals had an average of 40 million cells.

    - at 23 days a significant increase in the total number of red blood cells was recorded from 3.5 in the surviving controls to 6 million cells/microliter, in comparing the PLX($p<0.001$). Non-irradiated animals had an average of 7 million cells/microliter.

    - a significant increase in the total number of white cells from 0.75 in the surviving controls to 3.2 thousand cells/microliter at day 23 ($p<0.001$). Non-irradiated animals had an average of 5 thousand cells/microliter.

    - a significant increase in the total number of platelets - 170 in the surviving controls to 380 thousand cells/microliter at 23 days ($p<0.001$). Non-irradiated animals had an average of 400 thousand cells/microliter.

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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.

Data from two phase I/II studies indicate that Pluristem's first PLX product candidate, PLX-PAD, is safe and potentially effective for the treatment of end stage peripheral artery disease when given locally. Additionally, Pluristem is developing PLX-PAD for cardiac ischemia, PLX-BMP for Acute Radiation Exposure, Bone Marrow Transplant Failure and Chemotherapy induced Bone Marrow Aplasia, PLX-ORTHO for orthopedic indications and PLX-PAH for Pulmonary Hypertension in collaboration with United Therapeutics. Pluristem's pre-clinical animal models have demonstrated PLX cells are also potentially effective in other inflammatory/ischemic indications, including diastolic heart failure, inflammatory bowel disease, neuropathic pain and pulmonary fibrosis.

Pluristem has a strong patent 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. Follow Pluristem on Twitter@Pluristem.
CLICK HERE to watch a video where CLI patients and doctors involved with the clinical trials share their stories.

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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 say that PLX cells can be effective in animals when injected by needle, into the muscle and that avoiding the use of an IV is safer and more cost-effective, when we say that this opens far larger markets for treatments in a wide range of potential outpatient settings, clinic, and at home settings, when we say that the ability for IM injections of PLX cells has significant market implications that potentially broaden the indications and frequency with which our cell therapy can be used and that we look forward to conducting additional testing of this very promising approach, when we discuss the results of the pre clinical study and say that intramuscularly administered PLX cells were safe, effective, easy to inject and provided systemic therapeutic benefits in a wide range of hematological disorders, as well as primary and secondary bone marrow failure, such as in radiation sickness and possibly for some complications from chemotherapy and radiotherapy, when we say how extremely pleased we are at how convincingly this study's data demonstrates that our PLX cells have the ability to stimulate the HSCs involved in rescuing bone marrow, when we say that with PLX cells, we may be able to reverse the traditional mindset that if you want to get a systemic effect, you need to give cells intravenously, when we discuss how the data of this study demonstrates the basis for the successful treatment of pediatric patient whose bone marrow graft was rescued using our PLX cells, when we say that data from two Phase I clinical trials indicate that Pluristem's first PLX product, PLX-PAD, is safe and potentially effective for the treatment of end stage PAD or when we say that Pluristem's pre-clinical animal models have demonstrated PLX cells are also potentially effective in other inflammatory/ischemic indications, including diastolic heart failure, inflammatory bowel disease, neuropathic pain and pulmonary fibrosis.. 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; 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.