Life of Cancer Patient Suffering from Bone Marrow Failure Saved Following Treatment with Pluristem's PLX Cells

Recently released from Hadassah Medical Center hospital, patient becomes second person whose life was saved by PLX cells, joining seven year old girl who suffered from severe aplastic bone marrow

HAIFA, ISRAEL, August 6, 2012 –Pluristem Therapeutics, Inc. (NASDAQCM:PSTI; TASE:PLTR), a leading developer of placenta-based cell therapies, announced today that the life of a patient suffering from bone marrow failure in which there was a dangerous reduction in the number of red blood cells, white blood cells, and platelets (pancytopenia) has been saved using Placental eXpanded (PLX) cells. This is the second time in the past three months that a patient suffering from bone marrow failure was successfully treated in a compassionate use treatment with PLX cells with a return of bone marrow function.

The patient, a 54 year-old woman diagnosed with lymphoma cancer, was initially treated with chemotherapy. Her condition continued to deteriorate, necessitating a bone marrow transplant. The transplant, as well as alternate therapies, were not successful. As a result, the woman suffered from prolonged dangerous pancytopenia. PLX cells were then administered to the patient at the Hadassah Medical Center, Jerusalem, under the Israeli government's compassionate use program. Following the injection of the PLX cells intramuscularly (IM), the woman's clinical condition and blood counts improved to the point where the patient was able to be released from the isolation unit and subsequently discharged from the hospital.

"This is a real breakthrough – the woman was in isolation due to low white blood cells and high susceptibility to infections and in addition her red blood cells and platelets were low, leading to a very dangerous and life-threatening situation," said Professor Reuven Or, Director of Bone Marrow Transplantation and Cancer Immunology at Hadassah Medical Center. "Further, autologous bone marrow transplantation that she received engrafted poorly, and as a last resort, we applied for a compassionate treatment using Pluristem's PLX cells based on our previous experience with those cells. The treatment with PLX has saved her life and can certainly be classified as a medical miracle," added Dr. Reuven Or. "The result of this unique case demonstrates that PLX cells could potentially be effective for use in cancer patients, who receive bone marrow transplantation following severe radiation and chemotherapy treatments, which severely damage their bone marrow."

The clinical improvements observed in this and a previous patient treated with PLX cells demonstrate that these cells could potentially assist in the recovery of bone marrow following bone marrow transplant failure or other conditions where the bone marrow is significantly compromised.

Pluristem recently announced it is preparing to apply for Orphan Drug Status for its PLX cells with the U.S. Food and Drug Administration for the treatment of aplastic bone marrow. The bone marrow transplant market is an estimated $1.3 billion per year in the U.S. alone, based on 30,000 bone marrow transplants in the U.S per annum.

In May, Pluristem announced that a seven year-old girl, whose condition was rapidly deteriorating due to an aplastic bone marrow, experienced a reversal of her condition with a significant increase in her red blood cells, white blood cells and blood platelets following the intramuscular injection of the company's PLX cells. The patient has subsequently been released from the hospital and returned home.

"We are extremely grateful to be working with Professor Reuven Or and his team, whose work helped save the life of this woman," said Zami Aberman, Chairman and CEO of Pluristem. "Pluristem now has several clinical data points to suggest that our PLX cells are successful in treating patients whose bone marrow is failing."

About the Patient

This 54 year-old patient was diagnosed with lymphoma in 2008 and received chemotherapy, resulting in remission of the disease in 2009. At that point doctors collected stem cells from her bone marrow. The cancer returned to her spinal cord in 2011. She was treated with both radiation and chemotherapy, which damaged her bone marrow. Autologous stem cell therapy was administered with cells collected from her in 2009. The bone marrow engrafted poorly and she was not responding to alternate treatments. Forty-five days after the autologous stem cell transplantation, with the patient's clinical condition deteriorating, PLX cells were administered IM via two courses a week apart. Approximately two weeks after her second course of PLX cells, clinical improvement was noted with an increase in her red blood cells, white blood cells and platelets. Her clinical condition has improved significantly to the point that she was released from the hospital.

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.

Data from two phase I 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 and ischemic indications, including diastolic heart failure, inflammatory bowel disease, neuropathic pain and pulmonary fibrosis.

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.

CLICK HERE to watch a video where CLI patients and doctors involved in the clinical trials share their stories.

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

Media Contact

Matthew Krieger
Finn Partners – for Pluristem
+972-54-467-6950
matthew@finnpartners.co.il

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 when we

discuss how the results of this case demonstrate that PLX cells could potentially be effective in cancer patients who receive severe radiation and chemotherapy treatments, severely damaging their bone marrow, when we discuss how PLX cells could potentially assist in the recovery of bone marrow following bone marrow transplant poor engraftment or other conditions where the bone marrow is significantly compromised, when we discuss the bone marrow transplant market in the U.S, 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 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; 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.