Pluristem's PLX-R18 Improves Hematopoietic Transplantation as Reported in Scientific Journal Frontiers in Medicine

Findings support Pluristem's ongoing Phase I study of PLX-R18 in hematopoietic recovery following hematopoietic cell transplantation

HAIFA, Israel, February 27, 2018 - Pluristem Therapeutics Inc. (Nasdaq:PSTI) (TASE:PSTI), a leading developer of placenta-based cell therapy products, announced today that Frontiers in Medicine has published key findings from a study of PLX-R18 that demonstrate the cells' efficacy in improving human hematopoietic engraftment. The article titled, "Posttransplant Intramuscular Injection of PLX-R18 Mesenchymal-Like Adherent Stromal Cells Improves Human Hematopoietic Engraftment in A Murine Transplant Model" was published in the peer-reviewed journal's February 2018 issue.

In the published study, mice were injected intramuscularly (IM) with PLX-R18 following human hematopoietic cell transplantation (HCT). Significant improvement was observed in the peripheral blood counts as measured by CD45+ cell recovery at weeks 6 (8.4 vs. 24.1%, $p < 0.001$) and 8 (7.3 vs. 13.1%, $p < 0.05$) and in the bone marrow at week 8 (28 vs. 40.0%, $p < 0.01$) in the PLX-R18 treated groups versus the control, placebo groups. Superiority of PLX-R18 treatment over the control groups was also reported for recovery of CD19+ cells at weeks 6 (12.6 vs. 3.8%) and 8 (10.1 vs. 4.1%). These findings support Pluristem's clinical development of PLX-R18 for a variety of hematological indications.

Pluristem is currently conducting a Phase I clinical trial in the U.S. and Israel of PLX-R18 to treat incomplete hematopoietic recovery following HCT. HCT is used to treat bone marrow failure associated with cancers of the blood and/or chemotherapy. When HCT fails to fully engraft, it poses dangers to the patient. The Phase I study is evaluating the safety of IM injections of PLX-R18 cells in 24 people with incomplete hematopoietic recovery persisting for at least 4 months following HCT.

Prof. Hillard M. Lazarus, Department of Medicine, Case Western Reserve University, co-author of the article, and Principal Investigator of Pluristem's Phase I study of PLX-R18 in HCT recovery, commented: "The published preclinical study directly supports the current Phase I study of PLX-R18 in HCT. The preclinical data clearly suggest that PLX-R18 may have a therapeutic role in improving incomplete engraftment following HCT. We hypothesize that PLX-R18 cells' secreted proteins, cytokines and chemokines are stimulating the marrow microenvironment, leading to improved reproduction of the progenitor cells and increasing peripheral blood counts."

"Through the publication of this study, we are pleased to add to the growing body of knowledge and data on PLX-R18 cells' role following IM injection to improve hematopoietic cell engraftment. These data support not only our Phase I study of PLX-R18 in HCT, but may also support current and potential studies of PLX-R18 in a broad range of hematologic indications," stated Pluristem Chairman and Co-CEO Zami Aberman.

About Pluristem Therapeutics

Pluristem Therapeutics Inc. is a leading developer of placenta-based cell therapy products. The Company has reported robust clinical trial data in multiple indications for its patented PLX cells and is entering late-stage trials in several indications. Our PLX cell products release a range of therapeutic proteins in response to inflammation, ischemia, muscle trauma, hematological disorders, and radiation damage. The cells are grown using the Company's proprietary three-dimensional expansion technology and can be administered to patients off-the-shelf, without tissue matching. Pluristem has a strong intellectual property position; Company-owned and operated, GMP-certified manufacturing and research facilities; strategic relationships with major research institutions; and a seasoned management team.

Safe Harbor Statement

This press release contains express or implied forward-looking statements within the Private Securities Litigation Reform Act of 1995 and other U.S. Federal securities laws. For example, Pluristem is using forward-looking statements when its discusses its Phase I clinical trial of PLX-R18 generally as well as when it states that PLX-R18 may have a therapeutic role in improving incomplete engraftment following HCT or that the data from its Phase I clinical trial of PLX-R18 to treat incomplete hematopoietic recovery following HCT may support current and potential studies of PLX-R18 in a broad range of hematologic indications. 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; Pluristem may encounter delays or obstacles in launching and/or successfully completing its clinical trials; Pluristem's products may not be approved by regulatory agencies, Pluristem's technology may not be validated as it progresses further and its methods may not be accepted by the scientific community; Pluristem may be unable to retain or attract key employees whose knowledge is essential to the development of its products; unforeseen scientific difficulties may develop with Pluristem's process; Pluristem's products may wind up being more expensive than it anticipates; results in the laboratory may not translate to equally good results in real clinical settings; results of preclinical studies may not correlate with the results of human clinical trials; Pluristem's patents may not be sufficient; Pluristem's products may harm recipients; changes in legislation may adversely impact Pluristem; 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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