Pluristem and Fukushima University Report Positive Data: PLX-R18 Increases Survival Rates and Mitigates Severe Intestinal Damage after Acute Radiation Exposure

HAIFA, Israel, June 25, 2018 - Pluristem Therapeutics Inc. (Nasdaq:PSTI) (TASE:PSTI), a leading developer of placenta-based cell therapy products, today reported positive data from studies conducted in collaboration with Fukushima Medical University evaluating PLX-R18 cells as a treatment for radiation damage to the gastrointestinal (GI) tract and bone marrow. Data from these studies showed that PLX-R18 cells significantly increase survival rates, preserve GI stem cells activity that enhance the recovery of the GI system and prevents severe damage to the intestinal lining, suggesting PLX-R18 potential as a multi-organ therapy for acute radiation syndrome (ARS).

Under a Memorandum of Understanding (MOU) with Pluristem, Fukushima University, Fukushima Global Medical Science Center, has been developing targeted animal models of ARS and has been testing these models in studies to evaluate the efficacy of PLX-R18 in treating radiation damage to the GI tract and bone marrow of mice.

In these preclinical studies, data showed that treatment with PLX-R18 following exposure to high level of ionizing radiation (14 Gy) with partial shielding of the bone marrow, led to a 50% increase in survival, significantly reduced weight loss and increased white blood cell and platelet counts as compared to the control groups. GI tract damage in ARS typically includes damage to, or reduction of, local stem cells, as well as a breach of the lining of the GI tract, leading to life threatening diarrhea and sepsis. Histopathological analysis from these studies showed that PLX-R18 cells mitigate severe damage to the intestinal lining, preserve survival and enhance regeneration of local stem cells, thus preventing breaches and support recovery of the GI tissue following exposure to high levels of ionizing radiation.

Akihiro Inano, Ph.D. of Fukushima University stated, “We were impressed by PLX-R18’s ability to increase survival by mitigating the damage of high levels of radiation on these organ systems. The development of this animal model enabled us to evaluate the efficacy of treating ARS in both the GI system and bone marrow simultaneously. Lethality in ARS originates mainly from radiation-induced injuries to bone marrow and the GI tract, highlighting the importance of the study’s purpose and results. We are now conducting a more extensive analysis of the data and plan to present these findings at the 18th World Congress of Basic and Clinical Pharmacology at Kyoto, Japan (July 1-6, 2018).

Pluristem Chairman and Co-CEO Zami Aberman commented, “We are very happy with the results and the expert research done by Fukushima University. A 50% Increase in survival is particularly impressive given the very high level of radiation exposure in these subjects and the damages that follow such radiation, especially to the bone marrow and the GI tract. The findings show, for the first time, that PLX-R18 has the ability to treat ARS as a multi-organ therapy. There is advancing scientific understanding that ARS is a

multi-organ system injury and needs to be treated as such. We believe these findings position PLX-R18 as the ultimate therapy available today for acute radiation injuries."

Pluristem's PLX-R18 cells are in late-stage development as a treatment for ARS in a program conducted and funded by the U.S. National Institutes of Health (NIH) and are also being studied by the U.S. Department of Defense (DOD) to support the needs of the U.S. armed forces. PLX-R18 investigational new drug (IND) application for ARS was recently cleared by the U.S. Food and Drug Administration (FDA), allowing Pluristem to treat victims who may have been acutely exposed to high dose radiation due to nuclear attack or accident. Pluristem's PLX-R18 ARS program has also received an orphan drug designation by the FDA.

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 that PLX-R18 may have potential as a multi-organ therapy for ARS and its belief that the study's findings position PLX-R18 as the ultimate therapy available today for acute radiation injuries. 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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