Preclinical Results for Pluristem's PLX-PAD Cells in Tendon Injury Presented at American Academy of Orthopedic Surgeons' Annual Meeting

Independent Study shows Use of PLX-PAD Human Placental-Derived Adherent Stromal Cells Improves Tendon Healing in a Preclinical Model of Tendon Injury

HAIFA, ISRAEL, March 12, 2014- Pluristem Therapeutics, Inc. (NasdaqCM: PSTI; TASE: PLTR), a leading developer of placenta-based cell therapies, today announced that Dr. Scott Rodeo of New York's Hospital for Special Surgery (HSS) presented his research findings in a scientific poster titled, "Use of Human Placental-Derived Adherent Stromal Cells Improves Tendon Healing in a Preclinical Model of Tendon Injury," at the American Academy of Orthopedic Surgeons' (AAOS) Annual Meeting, on March 11-15 in New Orleans.

At the AAOS meeting, Dr. Rodeo's poster presentation concluded that: a) placental-expanded cell therapy appeared to have an early beneficial effect on tendon healing following collagenase injury in this preclinical model; b) since these cells are immunoprivileged and are expanded ex vivo, its potential for "off-the-shelf" use is attractive relative to existing cell-based therapies; and c) additional preclinical studies are necessary to understand how these cells may affect tendon repair.

"Although our findings should be considered preliminary, adherent stromal cells derived from human placenta appear promising as a readily available cell source to aid tendon healing and regeneration," stated Dr. Rodeo.

"These detailed preclinical results, as well as the favorable top-line results we announced from our Phase I/II muscle injury study in January, both validate our strategy to pursue advanced clinical studies of our PLX cells for the sports and orthopedic market," stated Pluristem CEO Zami Aberman.

Dr. Rodeo and his orthopedic research team at HSS studied the effects of Pluristem's PLacental eXpanded (PLX)-PAD cells in a preclinical model of patellar tendons that had sustained collagenase-induced injuries. Favorable results from the study were announced by Pluristem on August 14, 2013. Dr. Rodeo, the Principal Investigator for this study is Professor of Orthopedic Surgery at Weill Cornell Medical College; Co-Chief of the Sports Medicine and Shoulder Service

at HSS; Associate Team Physician for the New York Giants Football Team; and Physician for the U.S.A. Olympic Swimming Team.

About the Study:

The biomechanical analysis of the study results showed that PLX-PAD treated tendons had significantly higher load-to-failure at the 2-week time point following injection when compared to saline-treated patellar tendons ($p < 0.05$). While PLX-PAD treated tendons had a higher mean tendon load-to-failure and stiffness (31.44 ± 6.06 N/mm versus 27.91 ± 6.57 N/mm) at a 4-week time point, these differences were not statistically significant.

Gross specimen and histological analysis of the tissue found: a) no consistent differences in severity of inflammation were seen between saline and tendons treated with placental cells at 2 and 4 weeks; b) no adverse soft tissue reaction was seen in placental cell-treated samples; c) CFSE-labeled placental cells were identified in the patellar tendon tissues out to 4 weeks following injection on fluorescent microscopy; and d) there was greater area of collagen content and metachromasia on ploraized-light picrosirius-red and safranin-O in tendons treated with placental-expanded cells, respectively.

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 research findings related to the use of our PLX-PAD cells in tendon injury, or that adherent stromal cells derived from human placenta appear promising as a readily available cell source to aid tendon healing and regeneration, or when we discuss our strategy to pursue advanced clinical studies of our PLX cells for the sports and orthopedic market. 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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