Placental Cell Therapy Mitigates Bone Marrow Damage Caused by High Levels of Radiation

**Released:**6-Dec-2015 8:00 PM EST

Cell therapy derived from the human placenta may be an effective new means for restoring cell damage caused by high levels of radiation that could occur in the event of a nuclear catastrophe. The therapy, called PLX-R18, is designed to treat bone marrow that is unable to produce blood cells due to a variety of causes including acute radiation syndrome (ARS), certain cancers or cancer treatments, and immune-mediated bone marrow failure. Earlier published studies showed an improved survival overall as well as restoration of bone marrow function in irradiated animals treated with PLX-R18 cells.

The results from this new series of studies were presented at the [American Society of Hematology’s (ASH)](http://www.globenewswire.com/Tracker?data=K_ynEgKWU0rP-fAhfzRW1NCCUVjStBavXimTEbN11kR7Hj8gMgx52huojGrIxOzF7-HygFoSqS_INJfaXQ_lGh-qcp_CEtOVFmUU9OYpmR8yArcerbFuYptAOcWVxUel) 57th Annual Meeting as part of a poster presentation titled “Mechanism of Action of PLX-R18, a Placental-Derived Cellular Therapy for the Treatment of Radiation-Induced Bone Marrow Failure.” They show the mechanism of action by which PLX-R18 cells mitigate the damage to bone marrow in irradiated mice. The study will be published[online](http://www.bloodjournal.org/content/126/23/2417?sso-checked=true) in the December 3, 2015 supplemental volume of Blood, a peer-reviewed medical journal published by ASH.

The mechanism of action was revealed through a series of trials conducted in conjunction with Charité Universitätsmedizin, Berlin Institute of Medical Immunology, the Brandenburg Center of Regenerative Therapy in Berlin, the Biotechnology and Radiobiology Lab, Sharett Institute of Oncology, Hadassah - Hebrew University Medical Center, and Indiana University; the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH), provided support for the research conducted at Indiana University.

“We have a growing body of preclinical evidence demonstrating PLX-R18’s profound capacity to generate and regulate an adaptive cell response to in vivo chemical signals from damaged tissue. This response, a tailored, time-dependent secretion of a broad array of cytokines that contribute to the healing of the hematopoietic and immune systems, was shown to protect and restore bone marrow function,” stated Pluristem CEO Zami Aberman. “We are pleased to present this latest data on the mechanism of action of our cells to the world’s thought leaders in hematology and bone marrow failure at this year’s ASH conference.”

About PLX-R18

PLX-R18 is Pluristem’s second off-the-shelf cell therapy in development. It is designed to treat bone marrow that is unable to produce blood cells due to a variety of causes including ARS, certain cancers or cancer treatments, and immune-mediated bone marrow failure. Pluristem is preparing to initiate a Phase I trial of PLX-R18 in incomplete bone marrow recovery following hematopoietic cell transplantation and, in collaboration with the NIH, a late-stage trial in ARS. With its capabilities, PLX-R18 could potentially treat a broad range of indications related to bone marrow function, which together constitute a substantial global market.

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 (PLacental eXpanded) cells. The cells release a cocktail of therapeutic proteins in response to inflammation, ischemia, hematological disorders, and radiation damage. PLX cell products are grown using the Company's proprietary three-dimensional expansion technology. They are off-the-shelf, requiring 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.

Related link: Blood Journal link: http://www.bloodjournal.org/content/126/23/2417?sso-checked=true