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Fate Therapeutics Enters Into Sponsored Research Agreement With Boston Children's Hospital to Develop Immunoregulatory Cell Therapy for Treatment of Autoimmune Diseases

Proof-of-Concept Data in Well-Established Model of Type 1 Diabetes Presented Today at the 75th Scientific Sessions of the American Diabetes Association

SAN DIEGO, June 5, 2015 (GLOBE NEWSWIRE) -- Fate Therapeutics, Inc. (Nasdaq:FATE) announced today that it has entered into a two-year sponsored research agreement with Boston Children's Hospital to accelerate the development of an adoptive immunoregulatory cell therapy to treat autoimmune diseases. The collaboration seeks to assess the potential of Fate's PD-L1 programmed CD34+ cellular therapeutic as a transformative treatment for type 1 diabetes. The Company's adoptive immunoregulatory cell therapy is currently undergoing preclinical testing across a range of autoimmune and inflammatory diseases.

The research program will be led by Paolo Fiorina, M.D., Ph.D., Assistant Professor of Pediatrics at Boston Children's Hospital and Harvard Medical School. Under the agreement, Dr. Fiorina will investigate the potential of Fate's PD-L1 programmed CD34+ cellular therapeutic to abrogate autoimmune activity responsible for the destruction of pancreatic beta cells and the development of type 1 diabetes. Preclinical data from the Fiorina laboratory presented today at the American Diabetes Association's 75th Scientific Sessions in Boston, Mass., shows that genetically engineered PD-L1+ hematopoietic cells adoptively transferred into hyperglycemic mice traffic to the pancreas, reduce aberrant T cell activity and revert hyperglycemia in a well-established murine model of type 1 diabetes.

"Our research revealed that human CD34+ cells from individuals with type 1 diabetes have reduced expression levels of PD-L1, and that genetically engineered hematopoietic cells can induce anergy of auto-reactive T cells *in vivo* by leveraging the immunosuppressive properties of the PD-L1 / PD-1 pathway," said Dr. Fiorina. "Fate's clinically validated *ex vivo* cell programming platform offers a promising approach to therapeutically harness these exciting preclinical proof-of-concept data, and we look forward to evaluating the potential of the Company's adoptive immunoregulatory cell therapy to transform the treatment of type 1 diabetes."

Dr. Fiorina and his team have extensively studied the cellular mechanisms and molecular pathways involved in the autoimmune-mediated destruction of pancreatic beta cells that result in insulin deficiency and onset of type 1 diabetes. While life-long daily insulin treatment allows for chronic management of type 1 diabetes, there remains a large unmet need for disease-modifying treatments that directly address the autoimmune etiology of the disease. Each year, more than 15,000 children and 15,000 adults — approximately 80 people per day — are diagnosed with type 1 diabetes in the US alone. Adoptive immunoregulatory cell therapy represents a novel approach to restoring immune homeostasis and inducing long-term tolerance in patients with type 1 diabetes and other autoimmune disorders.

The partnership brings together Boston Children's pioneering research on the immunoregulatory properties of hematopoietic cells and Fate's innovative platform for programming the *in vivo* biological activity and therapeutic potential of hematopoietic cellular therapeutics. Using its platform, Fate Therapeutics discovered a combination of pharmacologic modulators to promote rapid and supra-physiologic activation of PD-L1 on the surface of human CD34+ hematopoietic cells. The Company has shown that these programmed CD34+ cells recognize and significantly reduce the proliferation rates of activated T cells *in vitro* as compared to unmodulated human CD34+ hematopoietic cells.

About Fate Therapeutics, Inc.

Fate Therapeutics is a clinical-stage biopharmaceutical company engaged in the development of programmed cellular therapeutics for the treatment of severe, life-threatening diseases. The Company's approach utilizes established pharmacologic modalities, such as small molecules, to program the fate and function of cells *ex vivo*. The Company's lead product candidate, PROHEMA®, is an *ex vivo* programmed hematopoietic cellular therapeutic, which is currently in clinical development for the treatment of hematologic malignancies and rare genetic disorders in patients undergoing hematopoietic stem cell transplantation (HSCT). The Company is also using its proprietary induced pluripotent stem cell platform to develop *ex vivo* reprogrammed hematopoietic and myogenic cellular therapeutics. Fate Therapeutics is headquartered in San Diego, CA. For more information, please visit www.fatetherapeutics.com.

Forward-Looking Statements

This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding the therapeutic potential of pharmacologically modulated CD34+ hematopoietic cells and any product candidates that may arise from the Company's collaboration with Boston Children's Hospital, and the Company's plans to undertake certain preclinical research and development of programmed hematopoietic cells. These and any other forward-looking statements in this release are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, the risk of cessation or delay of planned preclinical development activities for a variety of reasons, any inability to develop programmed CD34+ hematopoietic cells suitable for therapeutic applications, the risk that programmed human CD34+ hematopoietic cells may not produce the therapeutic benefits suggested by the results observed in preclinical studies, and the risk that the Company's collaboration with Boston Children's Hospital may not be successful or may be terminated for a variety of reasons. For a discussion of other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the risks and uncertainties detailed in the Company's periodic filings with the Securities and Exchange Commission, including but not limited to the Company's Form 10-Q for the quarter ended March 31, 2015, and from time to time the Company's other investor communications. We are providing the information in this release as of this date and do not undertake any obligation to update any forward-looking statements contained in this release as a result of new information, future events or otherwise.

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