Jasper Therapeutics Announces Launch of New Clinical Trial with National Heart, Lung, and Blood Institute to Evaluate JSP191 in Sickle Cell Disease

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REDWOOD CITY, Calif.--(BUSINESS WIRE)--Jasper Therapeutics, Inc., a biotechnology company focused on hematopoietic cell transplant therapies, today announced the launch of a Phase 1/2 clinical trial to evaluate JSP191, Jasper's first-in-class anti-CD117 monoclonal antibody, as a targeted, non-toxic conditioning regimen prior to allogeneic transplant for sickle cell disease (SCD). Jasper Therapeutics and the National Heart, Lung, and Blood Institute (NHLBI) have entered into a clinical trial agreement in which NHLBI will serve as the Investigational New Drug (IND) sponsor for this study.

SCD is a lifelong inherited blood disorder that affects hemoglobin, a protein in red blood cells that delivers oxygen to tissues and organs throughout the body. Approximately 300,000 infants are born with SCD annually worldwide, and the number of cases is expected to significantly increase. Currently, hematopoietic stem cell transplantation (HSCT) is the only cure available for SCD.

"This clinical trial agreement with the NHLBI expands the development of JSP191 for transplant conditioning and could bring curative transplants to more patients in need," said Kevin N. Heller, M.D., Executive Vice President, Research and Development, of Jasper Therapeutics. "We look forward to collaborating with the NHLBI and learning more about the potential for JSP191 in patients living with sickle cell disease."

About JSP191

JSP191 (formerly AMG 191) is a first-in-class humanized monoclonal antibody in clinical development as a conditioning agent that clears hematopoietic stem cells from the bone marrow. JSP191 binds to human CD117, a receptor for stem cell factor (SCF) that is expressed on the surface of hematopoietic stem and progenitor cells. The interaction of SCF and CD117 is required for stem cells to survive. JSP191 blocks SCF from binding to CD117 and disrupts critical survival signals in stem cells leading to cell death. This creates space in the bone marrow for engraftment of donor or gene-corrected transplanted stem cells.

Preclinical studies have shown that JSP191, as a single agent, safely depletes normal and diseased hematopoietic stem cells, including in animal models of severe combined immunodeficiency (SCID), myelodysplastic syndromes (MDS), and sickle cell disease (SCD). Treatment with JSP191 creates the space needed for transplanted normal donor or gene-corrected hematopoietic stem cells to successfully engraft in the host bone marrow. To date, JSP191 has been evaluated in more than 90 healthy volunteers and patients.

JSP191 is currently being evaluated in two separate Jasper Therapeutics-sponsored clinical studies in hematopoietic cell transplant. The first clinical study is evaluating JSP191 as a sole conditioning agent in a Phase 1/2 dose-escalation and expansion trial to achieve donor stem cell engraftment in patients undergoing hematopoietic cell transplant for SCID. Blood stem cell transplantation offers the only potentially curative therapy for SCID. JSP191 is also being evaluated in combination with another conditioning regimen in a Phase 1 study in patients with MDS or acute myeloid leukemia (AML) who are receiving hematopoietic cell transplant. For more information about the design of these clinical trials, visit www.clinicaltrials.gov (NCT02963064 and NCT04429191).

Additional studies are planned to advance JSP191 as a conditioning agent for patients with other rare and ultra-rare monogenic disorders and autoimmune diseases.

About Jasper Therapeutics

Jasper Therapeutics is a biotechnology company focused on the development of novel curative therapies based on the biology of the hematopoietic stem cell. The company's lead compound, JSP191, is in clinical development as a conditioning antibody that clears hematopoietic stem cells from bone marrow in patients undergoing a hematopoietic cell transplant. This first-in-class conditioning antibody is designed to enable safer and more effective curative hematopoietic cell transplants and gene therapies. For more information, please visit us at jaspertherapeutics.com.

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