Jasper Therapeutics Initiates New Clinical Trial with National Cancer Institute to Evaluate JSP191 in GATA2-related Myelodysplastic Syndromes

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REDWOOD CITY, Calif.--(BUSINESS WIRE)--Jasper Therapeutics, Inc., a biotechnology company focused on hematopoietic cell transplant therapies, today announced the initiation of a Phase 1/2 clinical trial to evaluate JSP191, the company's anti-CD117 monoclonal antibody, as a targeted, non-toxic conditioning agent prior to allogeneic transplant in patients with GATA2-related myelodysplastic syndromes (MDS). Jasper Therapeutics and the National Cancer Institute (NCI), part of the National Institutes of Health, have entered into a clinical trial agreement in which NCI will serve as the Investigational New Drug (IND) sponsor for this study.

"As we seek to make stem cell transplants safer and expand the indications for which JSP191 could be used as a less toxic, more effective conditioning regimen in patients undergoing curative transplant, we look forward to collaborating with the NCI on this Phase 1/2 clinical trial in patients with GATA2-related MDS," said Wendy Pang, M.D., Ph.D., vice president, research and translational medicine, of Jasper Therapeutics. "The results may provide us with key insights about the use of JSP191, a highly differentiated anti-CD117 monoclonal antibody, as a conditioning agent for this patient population."

MDS are a group of disorders in which immature blood-forming cells in the bone marrow become abnormal and do not make new blood cells or make defective blood cells, leading to low numbers of normal blood cells, especially red blood cells.[i] Some patients with MDS have mutations in the GATA2 gene, which plays a role in the production and maintenance of hematopoietic stem cells, which give rise to all blood and immune cells.[ii] Each year, about 2,500 patients with MDS in the G7 countries receive hematopoietic stem cell transplants. These transplants are curative but are underused due to the toxicity of the current high-intensity conditioning regimen, which includes the chemotherapy agents busulfan and fludarabine.

About JSP191

JSP191 is a humanized monoclonal antibody in clinical development as a conditioning agent that blocks stem cell factor receptor signaling leading to clearance of hematopoietic stem cells from bone marrow, creating an empty space for donor or gene-corrected transplanted stem cells to engraft. While hematopoietic cell transplantation can be curative for patients, its use is limited because standard high-dose myeloablative conditioning is associated with severe toxicities and standard low-dose conditioning has limited efficacy. To date, JSP191 has been evaluated in more than 90 healthy volunteers and patients. Two clinical trials for myelodysplastic syndromes (MDS)/acute myeloid leukemia (AML) and severe combined immunodeficiency (SCID) are currently enrolling. Enrollment in four additional studies is expected to begin in 2021 in patients with severe autoimmune disease, sickle cell disease, chronic granulomatous disease or Fanconi anemia who are undergoing hematopoietic cell transplantation.

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 is advancing two potentially groundbreaking programs. JSP191, an anti-CD117 monoclonal antibody, is in clinical development as a conditioning agent that clears hematopoietic stem cells from bone marrow in patients undergoing a hematopoietic cell transplantation. It is designed to enable safer and more effective curative allogeneic and autologous hematopoietic cell transplants and gene therapies. In parallel, Jasper Therapeutics is advancing its preclinical engineered hematopoietic stem cell (eHSC) platform, which is designed to overcome key limitations of allogeneic and autologous gene-edited stem cell grafts. Both innovative programs have the potential to transform the field and expand hematopoietic stem cell therapy cures to a greater number of patients with life-threatening cancers, genetic diseases and autoimmune diseases than is possible today. For more information, please visit us at jaspertherapeutics.com.

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[i] American Cancer Society. About Myelodysplastic Syndromes. https://www.cancer.org/cancer/myelodysplastic-syndrome/about/what-is-mds.html. Accessed July 28, 2021.

[ii] McReynolds LJ, Yang Y, Wong HY, et al. MDS-associated mutations in germline GATA2 mutated patients with hematologic manifestations. *Leuk Res.* 2019;70-75. doi: 10.1016/j.leukres.2018.11.013. Accessed July 28, 2021.

Contacts

Lily Eng
Real Chemistry
206-661-8627
leng@realchemistry.com

Jeet Mahal
Jasper Therapeutics
650-549-1403
jmahal@jaspertherapeutics.com