



## **Jasper Therapeutics Doses First Patient in Phase 1 Clinical Trial of JSP191 as Conditioning Agent for Patients with Myelodysplastic Syndromes/Acute Myeloid Leukemia Undergoing Hematopoietic Cell Transplantation**

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*-- First targeted antibody of its kind to be evaluated as a conditioning agent in patients with hematologic cancer undergoing stem cell transplantation, an area of significant unmet need --*

*-- Investigational humanized monoclonal antibody also being evaluated in a separate Phase 1 study as a conditioning agent in patients with severe combined immunodeficiency --*

REDWOOD CITY, Calif.--([BUSINESS WIRE](#))--Jasper Therapeutics, Inc., a biotechnology company focused on hematopoietic cell transplant therapies, today announced that the first patient has been dosed in a multicenter Phase 1 clinical trial of JSP191, a first-in-class humanized monoclonal antibody. The trial is evaluating JSP191 as a conditioning agent in patients with two types of hematologic disorders – myelodysplastic syndromes (MDS) and acute myeloid leukemia (AML) – who are undergoing blood or hematopoietic cell transplantation.

Hematopoietic cell transplantation offers the only potentially curative therapy for MDS and many forms of AML. However, standard-of-care conditioning regimens given prior to blood cell transplantation are highly toxic and associated with increased rates of relapse due to the persistence of disease-causing hematopoietic stem cells and insufficient graft versus leukemia effect.

“JSP191 is a very targeted therapy that causes the hematopoietic stem cells that occupy the bone marrow in MDS/AML patients to be depleted, leaving room for the transplanted stem cells to engraft,” said Andrew Artz, M.D., M.S., co-principal investigator of the Phase 1 trial and Associate Clinical Professor, Department of Hematology & Hematopoietic Cell Transplantation; Director, Program for Aging and Blood Cancers; Deputy Director, Center for Cancer and Aging, City of Hope Comprehensive Cancer Center. “We look forward to further evaluating JSP191 to determine its potential as a biologic conditioning regimen.”

The trial is currently open for enrollment at City of Hope Comprehensive Cancer Center and Stanford University; additional clinical trial sites in the United States will initiate enrollment in the coming weeks.

“As an anti-CD117 antibody, JSP191 is the first targeted antibody of its kind to be evaluated as a conditioning agent in patients with hematologic malignancies – an area of great unmet medical need,” said Kevin N. Heller, M.D., Head of Research and Development at Jasper Therapeutics. “We have seen preclinical proof-of-concept with JSP191 as a single agent in MDS/AML, and this study may provide clinical proof-of-concept, which will support advancing the compound as an antibody-based alternative to chemotherapy- or radiation-based conditioning regimens to prepare patients for a stem cell transplant or gene therapy.”

He added, “With the Phase 1 trial in hematologic disorders now underway, we are currently evaluating JSP191 in the second of a long line of indications we plan to seek. This is just the beginning, as we plan to conduct additional studies in pursuit of our goal of curing more patients with cancer and other life-threatening diseases.”

### **About the Phase 1 Study Design**

The open-label, multicenter Phase 1 study (JSP-CP-003) is designed to evaluate the safety, tolerability and efficacy of adding JSP191, an anti-CD117 monoclonal antibody, to the standard conditioning regimen of low-dose radiation and fludarabine (a chemotherapy agent) in adults with MDS or AML undergoing hematopoietic cell transplantation. Three different doses of JSP191 will be assessed for dose-limiting toxicities. The primary outcome measure is the safety and tolerability of JSP191 as a conditioning regimen up to one year following a donor cell transplant.

### **About MDS and AML**

Myelodysplastic syndromes (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.<sup>1</sup> In about one in three patients, MDS can progress to acute myeloid leukemia (AML), a rapidly progressing cancer of the bone marrow cells.<sup>1</sup> Both are diseases of the elderly with high mortality. Each year, about 5,000 patients with MDS and 8,000 people with AML 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 (formerly AMG 191) is a first-in-class humanized monoclonal antibody in clinical development as a conditioning agent that clears hematopoietic stem cells from 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, causing the stem cells to undergo cell death and creating an empty space in the bone marrow for donor or gene-corrected transplanted stem cells to engraft.

Preclinical studies have shown that JSP191 as a single agent safely depletes normal and diseased hematopoietic stem cells, including in an animal model of myelodysplastic syndromes (MDS). This 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 80 healthy volunteers and patients.

JSP191 is currently being evaluated 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 severe combined immunodeficiency (SCID), which is potentially curable only by this type of treatment. JSP191 is also being evaluated 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](http://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 hematopoietic cell transplant therapies. 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](http://jaspertherapeutics.com).

<sup>1</sup> <https://www.cancer.org/cancer/myelodysplastic-syndrome/about/what-is-mds.html>



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