Jasper Therapeutics Announces Updated Data from Phase 1 Clinical Trial of JSP191 as Targeted Stem Cell Conditioning Agent in Older Patients with Myelodysplastic Syndromes or Acute Myeloid Leukemia Undergoing Hematopoietic Cell Transplantation

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- **JSP191 is well tolerated with no treatment-related severe adverse events in 24 patients with myelodysplastic syndrome (MDS) or acute myeloid leukemia (AML) in Ph1b dose expansion study**
- **24 of 24 patients achieved successful engraftment with neutrophil recovery**
- **20 of 24 patients determined to be free from morphologic relapse or disease progression at last follow up**

REDWOOD CITY, Calif., April 26, 2022 (GLOBE NEWSWIRE) -- Jasper Therapeutics, Inc., (NASDAQ: JSPR) a biotechnology company focused on hematopoietic stem cell therapies, today announced updated efficacy, safety and pharmacokinetic data from its ongoing multicenter Phase 1 clinical trial of JSP191, the company's first-in-class anti-CD117 monoclonal antibody, as a targeted, non-toxic conditioning regimen in older patients with myelodysplastic syndromes (MDS) or acute myeloid leukemia (AML) undergoing allogeneic hematopoietic (blood) cell transplantation.

Updated data from the multicenter study showed that conditioning with a single dose of JSP191 0.6 mg/kg prior to low dose radiation and fludarabine in preparation for transplantation was well tolerated and led to successful engraftment as evidenced by primary neutrophil recovery and full donor myeloid chimerism in twenty-four older patients (aged 62-79) with AML in complete response (CR) or MDS. Twenty patients were determined to be free from morphological relapse or disease progression at last follow up with four patients off study due to relapse or progression. Clearance of measurable residual disease (MRD) was observed in 12 of 20 evaluable patients at last follow up. One case of late-onset grade III-IV acute GI graft vs. host disease (GVHD) and one case of secondary graft failure were reported. No JSP191 related Significant Adverse Events, no cases of classical acute grade II-IV GVHD and no cases of transplant related mortality within 100 days were reported.

The findings were presented by lead investigator Lori Muffly, M.D., M.S., Assistant Professor of Medicine (Blood and Bone Marrow Transplantation) at Stanford Medicine, as a late-breaking abstract at the 2022 Transplantation & Cellular Therapy (TCT) Meetings of the American Society for Transplantation and Cellular Therapy (ASTCT) and the Center for International Blood & Marrow Transplant Research (CIBMTR).

"We are excited about the progress of JSP191 as a targeted conditioning agent in patients with MDS or AML in CR undergoing hematopoietic stem cell transplant. These data show that JSP191 may be safely used on top of a standard conditioning regimen in older patients unable to tolerate myeloablative conditioning," said Ronald Martell, President and CEO of Jasper Therapeutics. "We are looking forward to the start of a registration clinical study of JSP191 for transplant conditioning in MDS or AML in CR patients and the potential to bring safer and more effective conditioning to the growing population of older patients in need of blood stem cell transplant."

The Phase I trial is an open-label, multicenter study evaluating the safety, tolerability and efficacy of adding JSP191 to the standard conditioning regimen of low-dose radiation and fludarabine in patients aged 60 or older with MDS or AML undergoing hematopoietic cell transplantation. Patients were ineligible for myeloablative conditioning. The primary outcome measure of the study is the safety and tolerability of JSP191 as a conditioning regimen up to one year following a donor cell transplant. Secondary endpoints include engraftment and donor chimerism, MRD clearance, non-relapse mortality, event-free survival, and overall survival.

For more information on the study, refer to Clinicaltrials.gov identifier NCT04429191

About MDS and AML

Myelodysplastic syndromes 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. In about one in three patients, MDS can progress to AML, a rapidly progressing cancer of the bone marrow cells. Both are diseases of the elderly with high mortality. Each year, about 29,000 patients are diagnosed with MDS and approximately 42,000 patients are diagnosed with AML in the G7 countries for which approximately 2,500 patients with MDS and approximately 8,000 people with AML receive hematopoietic stem cell transplants. These transplants are curative but are underused due to the toxicity of the current intensive conditioning agents that have many off-target toxicities, which includes the chemotherapy agents busulfan and melphalan.

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 hematopoietic cell transplantation. It is designed to enable safer and more effective curative allogeneic hematopoietic cell transplants and gene therapies. Clinical study of JSP191 as a novel, disease-modifying, therapeutic for patients with lower risk MDS is also planned to begin in 2022. In parallel, Jasper Therapeutics is advancing its preclinical mRNA hematopoietic stem cell 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.

Forward-Looking Statements

Certain statements included in this press release that are not historical facts are forward-looking statements for purposes of the safe harbor provisions under the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements are sometimes accompanied by words such as "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect," "should," "would," "plan," "predict," "potential," "seem," "seek," "future," "outlook" and similar expressions that predict or indicate future events or trends or that are not statements of historical matters. These forward-looking statements include, but are not limited to, statements regarding the potential benefits of hematopoietic stem cells (HSC) engraftment following targeted JSP191 conditioning in the treatment of myelodysplastic syndromes, acute myeloid leukemia, or severe combined immunodeficiency and JSP191's potential generally. These statements are based on various assumptions, whether or not identified in this press release, and on the current expectations of Jasper Therapeutics and are not predictions of actual performance. These forward-looking statements are provided for illustrative purposes only and are not intended to serve as, and must not be relied on by an investor as, a guarantee, an assurance, a prediction or a definitive statement of fact or probability. Actual events and circumstances are difficult or impossible to predict and will differ from assumptions. Many actual events and circumstances are beyond the control of Jasper Therapeutics. These forward-looking statements are subject to a number of risks and uncertainties, including general economic, political and business conditions; the risk that the potential product candidates that Jasper Therapeutics develops may not progress through clinical development or receive required regulatory approvals within expected timelines or at all; risks relating to uncertainty regarding the regulatory pathway for Jasper Therapeutics' product candidates; the risk that clinical trials may not confirm any safety, potency or other product characteristics described or assumed in this press release; the risk that Jasper Therapeutics will be unable to successfully market or gain market acceptance of its product candidates; the risk that prior study results may not be replicated; the risk that final study data may not be consistent with preliminary study data; the risk that Jasper Therapeutics' product candidates may not be beneficial to patients or successfully commercialized; the risk that Jasper Therapeutics has overestimated the size of the target patient population, their willingness to try new therapies and the willingness of physicians to prescribe these therapies; the effects of competition on Jasper Therapeutics' business; the risk that third parties on which Jasper Therapeutics depends for laboratory, clinical development, manufacturing and other critical services will fail to perform satisfactorily; the risk that Jasper Therapeutics' business, operations, clinical development plans and timelines, and supply chain could be adversely affected by the effects of health epidemics, including the ongoing COVID-19 pandemic; the risk that Jasper Therapeutics will be unable to obtain and maintain sufficient intellectual property protection for its investigational products or will infringe the intellectual property protection of others and other risks and uncertainties indicated from time to time in Jasper Therapeutics' public filings with the SEC. If any of these risks materialize or Jasper Therapeutics' assumptions prove incorrect, actual results could differ materially from the results implied by these forward-looking statements. There may be additional risks that Jasper Therapeutics does not presently know, or that Jasper Therapeutics currently believes are immaterial, that could also cause actual results to differ from those contained in the forward-looking statements. While Jasper Therapeutics may elect to update these forward-looking statements at some point in the future, Jasper Therapeutics specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing Jasper Therapeutics' assessments of any date subsequent to the date of this press release. Accordingly, undue reliance should not be placed upon the forward-looking statements.

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