Jasper Therapeutics Announces Positive Follow-up Clinical Data from Investigator-Sponsored Study of Briquilimab Conditioning in Sickle Cell Disease Patients

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Data Presented in Plenary Session at the 2023 Transplantation & Cellular Therapy Meetings of the ASTCT and CIBMTR

- First two sickle cell disease participants have achieved 100% donor myeloid chimerism through 100 days follow-up
- Third sickle cell disease participant has now achieved 100% donor myeloid chimerism through 30 days follow-up
- All three participants have increased their hemoglobin at last follow-up relative to baseline

REDWOOD CITY, Calif., Feb. 16, 2023 (GLOBE NEWSWIRE) -- Jasper Therapeutics, Inc. (Nasdaq: JSPR) (Jasper), a biotechnology company focused on developing novel antibody therapies targeting c-Kit (CD117) to address diseases such as chronic spontaneous urticaria and lower to intermediate risk myelodysplastic syndromes as well as novel stem cell transplant conditioning regimes, announced that additional follow-up data from Jasper's investigator-sponsored study of briquilimab (formerly known as JSP191) as a conditioning agent in the treatment of sickle cell disease (SCD) were presented today in a plenary session focused on novel antibody-based conditioning regimens at the 2023 Tandem Meetings: Transplantation & Cellular Therapy Meetings of ASTCT and CIBMTR. Dr. John F. Tisdale, Director of the Cellular and Molecular Therapeutics Laboratory, National Heart, Lung, and Blood Institute, delivered the talk, titled "Improving the Landscape for Curative Therapies in Sickle Cell Disease with Novel Conditioning Methods."

The study is a Phase 1/2 clinical trial (NCT05357482) evaluating the addition of briquilimab, Jasper's anti-c-Kit monoclonal antibody, to an existing bone marrow transplantation regimen (NCT00061568) in individuals with SCD and beta thalassemia considered at high risk for complications from or ineligible for standard myeloablative hematopoietic stem cell transplant. The addition of briquilimab is being studied as a potential way to achieve a higher percentage of healthy donor stem cell engraftment (donor chimerism) without increased toxicity. Initial data from this study were previously shared by Jasper via press release on January 3, 2023.

In the plenary session presented by Dr. Tisdale, data results were as follows, with no graft-versus-host disease or briquilimab related severe adverse events observed:

	Patient 1	Patient 2	Patient 3
Donor myeloid chimerism	100% at Day 100	100% at Day 100	100% at Day 30
Baseline hemoglobin (Hgb)	8-9 g/dL	9-10 g/dL	8-9 g/dL
Hgb at most recent follow up	12.6 g/dL	11.4 g/dL	14 g/dL

"We are encouraged by the continued positive data from this important study led by Dr. Tisdale and the National Institutes of Health for a high unmet need population," said Ronald Martell, President and Chief Executive Officer of Jasper. "There is significant room for improving outcomes for curative therapies in sickle cell disease through targeted antibody-based conditioning for both stem cell transplant as well as gene therapy. These data add to our confidence that directly targeting c-Kit with briquilimab has promise to contribute to that goal and to address a range of rare and chronic diseases driven by stem cells and mast cells."

For SCD and beta-thalassemia, transplantation of healthy donor stem cells is a multi-step process. After donor cells are collected, a human subject's existing stem cells must be cleared from the bone marrow to make space for the transplanted cells, which is known as bone marrow conditioning. Next, the newly transplanted cells must survive and replicate within the bone marrow, which is known as bone marrow engraftment. The extent of engraftment is measured by the proportion of the donor cells and the human subject's own cells, which is known as donor chimerism. As has been shown, improving chimerism is crucial to lead to a sufficient proportion of healthy donor stem cells that produce healthy red blood cells and reverse the sickle phenotype after the stem cell transplant.

About Jasper

Jasper is a clinical-stage biotechnology company developing briquilimab, a monoclonal antibody targeting c-Kit (CD117) as a therapeutic for chronic mast and stem cell diseases such as chronic urticaria and lower to intermediate risk myelodysplastic syndromes (MDS) and as a conditioning agent for stem cell transplants for rare diseases such as sickle cell disease (SCD), Fanconi anemia (FA) and severe combined immunodeficiency (SCID). To date, briquilimab has a demonstrated efficacy and safety profile in over 130 dosed subjects and healthy volunteers, with clinical outcomes as a conditioning agent in SCID, acute myeloid leukemia (AML), MDS, FA, and SCD. In addition, briquilimab is being advanced as a transformational non-genotoxic conditioning agent for gene therapy. For more information, please visit us at www.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 briquilimab' s potential, including with respect to its potential to contribute to a higher percentage of donor chimerism without increased toxicity in patients with sickle cell disease and beta thalassemia, its potential to contribute to the improvement of curative therapies in sickle cell disease and its potential to address a range of rare and chronic diseases driven by stem cells and mast cells. These statements are based on various assumptions, whether or not identified in this press release, and on the current expectations of Jasper 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. Many actual events and circumstances are beyond the control of Jasper. 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 develops may not progress through clinical development or receive required regulatory approvals within expected timelines or at all; 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 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 Jasper's product candidates may not be beneficial to patients or successfully commercialized; patients' willingness to try new therapies and the willingness of physicians to prescribe these therapies; the effects of competition on Jasper's business; the risk that third parties on which Jasper depends for laboratory, clinical development, manufacturing and other critical services will fail to perform satisfactorily; the risk that Jasper's 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 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's filings with the SEC, including its Annual Report on Form 10-K for the year ended December 31, 2021 and subsequent Quarterly Reports on Form 10-Q. If any of these risks materialize or Jasper's assumptions prove incorrect, actual results could differ materially from the results implied by these forward-looking statements. While Jasper may elect to update these forward-looking statements at some point in the future, Jasper specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing Jasper's 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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