Jasper Therapeutics and Aruvant Announce Research Collaboration to Study JSP191, an Antibody-Based Conditioning Agent, with ARU-1801, a Novel Gene Therapy for the Treatment of Sickle Cell Disease

June 21, 2021

REDWOOD CITY, Calif. and NEW YORK and BASEL, Switzerland, June 21, 2021 /PRNewswire/ -- Jasper Therapeutics, Inc., a biotechnology company focused on hematopoietic cell transplant therapies, and Aruvant Sciences, a private company focused on developing gene therapies for rare diseases, today announced that they have entered a non-exclusive research collaboration to evaluate the use of JSP191, Jasper's anti-CD117 monoclonal antibody, as a targeted, non-toxic conditioning agent with ARU-1801, Aruvant's investigational lentiviral gene therapy for sickle cell disease (SCD). The objective of the collaboration is to evaluate the use of JSP191 as an effective and more tolerable conditioning agent that can expand the number of patients who can receive ARU-1801, a potentially curative treatment for SCD.

"This research collaboration with Aruvant is the first to use a clinical-stage antibody-based conditioning agent and a novel clinical-stage gene therapy, giving this combination a clear advantage by moving beyond the harsh conditioning agents currently used for gene therapy and establishing this next-generation potentially curative treatment as a leader in sickle cell disease," said Kevin N. Heller, M.D., executive vice president, research and development of Jasper. "Our goal is to establish JSP191 as a potential new standard of care conditioning agent, broadly in autologous gene therapy and allogeneic hematopoietic stem cell transplantation."

Gene therapies and gene editing technologies generally require that a patient's own hematopoietic stem cells first be depleted from the bone marrow to facilitate the engraftment of the new, gene-modified stem cells through a process called conditioning. Other investigational gene therapies and gene editing approaches in SCD use a high-dose chemotherapy such as busulfan for the conditioning regimen, which can place patients at prolonged risk for infection and bleeding, secondary malignancy and infertility. ARU-1801 is currently the only gene therapy that has demonstrated durable efficacy using both a lower dose of chemotherapy and a different agent than busulfan with a more limited side effect profile. The Aruvant-Jasper partnership is focused on evaluating the potential of using JSP191, a highly targeted anti-CD117 (stem cell factor receptor) monoclonal antibody agent, as the foundation of a novel conditioning regimen for use in combination with ARU-1801 to further reduce the negative side effects while maintaining efficacy.

"The unique attributes of ARU-1801 enable us to bring a potentially curative one-time therapy to individuals with sickle cell disease that can be delivered in the safest way possible," said Will Chou, M.D., Aruvant chief executive officer. "By partnering with Jasper to evaluate the use of JSP191 with ARU-1801, we are one step closer to developing a next-generation definitive therapy with an even more patient-friendly conditioning regimen. We believe that this combination may be able to further expand the number of patients who can benefit from ARU-1801 in the future, including potentially those with more moderate disease."

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. It is currently enrolling in two clinical trials for myelodysplastic syndromes (MDS)/acute myeloid leukemia (AML) and severe combined immunodeficiency (SCID) and expects to begin enrollment in four additional studies in 2021 for severe autoimmune disease, sickle cell disease, chronic granulomatous disease and Fanconi anemia patients undergoing hematopoietic cell transplantation.

About ARU-1801
ARU-1801 is designed to address the limitations of current curative treatment options, such as low donor availability and the risk of graft-versus-host disease (GvHD) seen with allogeneic stem cell transplants. Unlike investigational gene therapies and gene editing approaches which require fully myeloablative conditioning, the unique characteristics of ARU-1801 allow it to be given with reduced intensity conditioning ("RIC"). Compared to myeloablative approaches, the lower dose chemotherapy regimen underlying RIC has the potential to reduce not only hospital length of stay, but also the risk of short- and long-term adverse events such as infection and infertility. Preliminary clinical data from the MOMENTUM study, an ongoing Phase 1/2 trial of ARU-1801 in patients with severe sickle cell disease, demonstrate continuing durable reductions in disease burden.

The MOMENTUM Study
Aruvant is conducting the MOMENTUM study, which is evaluating ARU-1801, a one-time potentially curative investigational gene therapy for patients with SCD. This Phase 1/2 study is currently enrolling participants, and information may be found at momentumtrials.com which includes a patient brochure, an eligibility questionnaire and information for healthcare providers.

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, a first-in-class 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.

About Aruvant Sciences
Aruvant Sciences, part of the Roivant family of companies, is a clinical-stage biopharmaceutical company focused on developing and commercializing gene therapies for the treatment of rare diseases. The company has a talented team with extensive experience in the development, manufacturing and commercialization of gene therapy products. Aruvant has an active research program with a lead product candidate, ARU-1801, in development for individuals suffering from sickle cell disease (SCD). ARU-1801, an investigational lentiviral gene therapy, is being studied in a Phase 1/2 clinical trial, the MOMENTUM study, as a one-time potentially curative treatment for SCD. Preliminary clinical data demonstrate engraftment of ARU-1801 and amelioration of SCD is possible with one dose of reduced intensity chemotherapy. The company's second product candidate, ARU-2801, is in development to cure hypophosphatasia, a devastating, ultra-orphan disorder that affects multiple organ systems and leads to high mortality when not treated. Data from pre-clinical studies with ARU-2801 shows durable improvement in disease biomarkers and increased survival. For more information on the ongoing ARU-1801 clinical study, please visit www.momentumtrials.com and for more on the company, please visit www.aruvant.com. Follow Aruvant on Facebook, Twitter @AruvantSciences and on Instagram @Aruvant_Sciences.

About Roivant
Roivant's mission is to improve the delivery of healthcare to patients by treating every inefficiency as an opportunity. Roivant develops transformative medicines faster by building technologies and developing talent in creative ways, leveraging the Roivant platform to launch Vants – nimble and focused biopharmaceutical and health technology companies. For more information, please visit www.roivant.com.

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