Magenta Therapeutics to Present Data at the 2022 American Society of Hematology (ASH) Annual Meeting

November 3, 2022

– Oral presentation of MGTA-117 Phase 1/2 dose escalation clinical trial abstract, with additional clinical data supporting proof-of-mechanism –

– Poster presentation of data from a MGTA-117 non-human primate study that has provided predictive modeling of biologic activity in the ongoing Phase 1/2 dose escalation clinical trial –

– Poster presentation of MGTA-145 "trial-in-progress" abstract describing the clinical trial design for mobilization and collection of stem cells from patients with sickle cell disease –

CAMBRIDGE, Mass., Nov. 03, 2022 (GLOBE NEWSWIRE) -- Magenta Therapeutics (Nasdaq: MGTA), a clinical-stage biotechnology company developing novel medicines designed to bring the curative power of stem cell transplant to more patients, today announced that it will make three presentations relating to its ongoing clinical trials at the 2022 American Society of Hematology (ASH) Annual Meeting, to be held in New Orleans from December 10-13, 2022 and virtually. In addition, an academic collaborator will present data from a preclinical program from Magenta's research platform.

"We have made significant progress in the MGTA-117 Phase 1/2 clinical trial and look forward to presenting clinical evidence at ASH that we believe supports proof-of-mechanism for MGTA-117. We are also very encouraged by the predictive value of our MGTA-117 preclinical modeling which has closely matched our pharmacokinetics and pharmacodynamics clinical experience in the early cohorts of the ongoing study. We expect these results will collectively inform the continued development of MGTA-117, our most advanced targeted antibody-drug conjugate, to enable more patients to benefit from stem cell transplant and gene therapies," said Jason Gardner, D.Phil., President and Chief Executive Officer, Magenta Therapeutics.

MGTA-117: Antibody Drug Conjugate (ADC) Targeted Conditioning
MGTA-117 is Magenta's most advanced targeted conditioning product candidate designed to deplete target cells prior to a patient undergoing stem cell transplant or receiving an ex vivo gene therapy product. The program is currently enrolling patients with relapsed/refractory acute myeloid leukemia (AML), and myelodysplastic syndromes (MDS), in a Phase 1/2 dose escalation clinical trial. MGTA-117 is an anti-CD117 antibody conjugated to an amanitin payload. CD117, also known as c-Kit receptor, is highly expressed on hematopoietic stem cells, progenitor cells, and leukemic cells.

Oral presentation of updated clinical data from ongoing Phase 1/2 dose escalation clinical trial
Title: MGTA-117, an Anti-CD117 Antibody-Drug Conjugated with Amanitin, in Participants with Relapsed/Refractory Adult Acute Myeloid Leukemia (AML) and Myelodysplasia with Excess Blasts (MDS-EB): Safety, Pharmacokinetics and Pharmacodynamics Initial Findings from a Phase 1/2 Study
Date: Monday, December 12, 2022, 3:30 pm CT
Abstract Summary: Magenta is conducting a multicenter, open-label, dose-escalation clinical trial of MGTA-117 in relapsed/refractory AML patients. The abstract describes full clinical data from four patients in Cohort 1 and references the enrollment of the first two patients in Cohort 2 as of the August 2nd abstract submission date. The clinical data from the four patients in Cohort 1 showed evidence that MGTA-117 (i) binds to cells expressing CD117 target, (ii) depletes target cells and (iii) clears the body rapidly with no detectable free payload. In addition, and as previously referenced, one Cohort 1 patient achieved complete remission after receiving MGTA-117 and proceeded to a conditioning regimen followed by stem cell transplant. As described in the abstract, MGTA-117 was well-tolerated with no serious adverse events deemed related to MGTA-117 and no dose-limiting toxicities. As described separately, in addition to the results described in the published abstract, Magenta will present updated available clinical data.

Poster presentation characterizing MGTA-117 Pharmacokinetic (PK) and Pharmacodynamic (PD) in Non-Human Primates (NHPs)
Title: The Pharmacokinetic and Pharmacodynamic Characterization of MGTA-117, an Anti-CD117-Amanitin Antibody-Drug Conjugate for Targeted Conditioning Prior to Transplant, in Non-Human Primates
Date: Monday, December 12, 2022, 6:00-8:00 pm CT
Abstract Summary: MGTA-117 was designed to deplete target cells via a dual-mechanism: direct cell killing from the ADC payload plus blocking of stem cell factor binding by the antibody. Stem cell factor naturally binds to CD117 and is needed for cell survival and proliferation. MGTA-117 was administered across a range of doses in primates to assess the time course of PK, PD and depletion of stem cells. At multiple dose levels, MGTA-117 showed greater than 90% depletion of stem cells in the bone marrow. All dose levels showed rapid rates of MGTA-117 clearance that, together with evidence showing robust stem cell depletion, supports the potential use of MGTA-117 to deplete target cells prior to a patient's hematopoietic stem cell transplant or infusion of any *ex vivo* gene therapy product. To date, the PK and PD data and modeled projections derived from this NHP study have been predictive of MGTA-117's clinical experience.

MGTA-145 Stem Cell Mobilization and Collection
Magenta is developing MGTA-145, in combination with plerixafor, to improve the process by which stem cells are stimulated out of the bone marrow and into the bloodstream, known as stem cell mobilization. The mobilized cells are then collected and available for transplant. This is the first step for patients and is required for the majority of transplants and stem cell gene therapies.

Poster presentation of the ongoing Phase 2 clinical study in sickle cell disease
Title: A Phase 2, Open-Label Study to Evaluate the Efficacy and Safety of MGTA-145 in Combination with Plerixafor for the Mobilization of Hematopoietic Stem Cells in Patients with Sickle Cell Anemia
Date: Monday, December 12, 2022, 6:00-8:00 pm CT
Abstract Summary: This is a Phase 2 open-label clinical trial designed to evaluate the safety, tolerability, pharmacokinetics and pharmacodynamics of one or two doses of MGTA-145 combined with plerixafor for the mobilization of hematopoietic stem cells in patients with sickle cell disease. The primary endpoint is the total number of collected stem cells. Key exploratory endpoints include characterization of the phenotype and function of cells collected by apheresis and assessment of the potential for collected cells to undergo gene modification. The results of this clinical trial will provide

direction regarding the potential of MGTA-145, in combination with plerixafor, to rapidly and safely mobilize sufficient numbers of high-quality stem cells for hematopoietic stem cell transplant in patients with sickle cell disease.

Magenta Research Platform
Magenta's research platform is focused on discovering, engineering and advancing novel molecules, including ADCs, that target specific cells for depletion in patients receiving stem cell transplants and cell and gene therapies. Targeted depletion is intended to improve the efficacy and safety of stem cell transplant and cellular therapies by replacing or reducing the use of chemotherapy.

Oral presentation of Magenta Research ADC in a NHP transplant model (Academic Collaborator)
Title: Targeted Deletion of Activated T Cells with a Single Dose of Anti-CD137-Antibody Drug Conjugate Protects Against Acute GVHD (AGVHD) and Promotes Tolerogenic T Cell Reconstitution after Haplo-Identical Hematopoietic Stem Cell Transplantation (HSCT)
Date: Sunday, December 11, 2022, 4:30 pm CT
Abstract Summary: This collaborative preclinical study compared the outcomes of an allogeneic transplant in NHPs treated with either no graft-versus-host-disease (GVHD) prophylaxis (NoRx) or a single dose of an ADC targeting CD137 post-transplant (CD137-ADC). CD137 (4-1BB) is a cell surface target that is rapidly upregulated on activated T-cells following transplant, making this a promising drug target to prevent GVHD before it is initiated. All NHP transplant recipients receiving the ADC engrafted with donor cells demonstrating > 90% chimerism. NHPs treated with a single dose of CD137-ADC had a median survival of 97 days, which was significantly longer than the 8 days median survival in the control NoRx group. There were no treatment-related toxicities. This preclinical proof-of-concept for a CD137-based, single-dose, targeted therapy to prevent acute GVHD shows the potential of ADC-based targeted cell depletion to improve the efficacy and safety of allogeneic stem cell transplant and cell therapies.

About Magenta Therapeutics
Magenta Therapeutics is a clinical-stage biotechnology company developing medicines designed to bring the curative power of stem cell transplant to more patients with blood cancers, genetic diseases and autoimmune diseases. Magenta is combining leadership in stem cell biology and biotherapeutics development with clinical and regulatory expertise to revolutionize blood and immune reset to allow more patients to take advantage of the curative potential of stem cell transplant and potentially improve eligibility for future gene therapies.

Magenta is based in Cambridge, Mass. For more information, please visit www.magentatx.com.

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Forward-Looking Statements
This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995, as amended. These statements include, without limitation, implied and express statements relating to: Magenta's future business expectations, plans and prospects; the potential of, and expectations for, Magenta's product candidate pipeline; the potential benefits and expected performance of Magenta's product candidates and programs; the development of product candidates and advancement of preclinical and clinical programs, including, without limitation, patient enrollment; expectations, plans and timing for preclinical activities, clinical trials and related results involving Magenta's product candidates; expectations, plans and timing for the generation, receipt and disclosure of preclinical and clinical trial data, toxicology results, and other results involving Magenta's product candidates; timing for the disclosure of developmental timelines, developmental plans and program updates regarding Magenta's product candidates; timelines and expectations for dosing, dosing regimens and administration; the predictive value of Magenta's MGTA-117 preclinical modeling; whether present results will collectively inform the continued development of MGTA-117; and whether results of the MGTA-145 Phase 2 clinical trial will provide direction regarding the potential of MGTA-145, in combination with plerixafor, to rapidly and safely mobilize sufficient numbers of high-quality stem cells for hematopoietic stem cell transplant in patients with sickle cell disease.

Words such as "anticipate," "believe," "continue," "could," "designed," "endeavor," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "project," "seek," "should," "target," "preliminary," "will," "would" and similar expressions are intended to identify forward-looking statements. The express or implied forward-looking statements included in this press release are only predictions and are subject to a number of risks, uncertainties and assumptions, including, without limitation: volatility and uncertainty in the capital markets for biotechnology companies; uncertainties inherent in preclinical and clinical trials and in the availability and timing of data from ongoing and planned clinical and preclinical trials; the ability to initiate, enroll, conduct or complete ongoing and planned preclinical and clinical trials; vulnerability and/or fragility of, and the presence of underlying disorders in, the patient population for the clinical trials of Magenta's product candidates, including the MGTA-117 Phase 1/2 clinical trial in patients with relapsed/refractory AML and MDS; the delay of any current or planned preclinical or clinical trials, or the delay in development of Magenta's product candidates; whether results from preclinical or earlier clinical trials will be predictive of the results of future trials; interactions with regulatory agencies such as the U.S. Food and Drug Administration; the expected timing of submissions for regulatory approval to conduct or continue trials or to market products; Magenta's ability to successfully demonstrate the safety and efficacy of its product candidates; whether Magenta's cash resources will be sufficient to fund Magenta's foreseeable and unforeseeable operating expenses and capital expenditure requirements; and risks, uncertainties and assumptions regarding the impact of the continuing COVID-19 pandemic on Magenta's business, operations, preclinical activities, clinical trials, strategy, goals and anticipated timelines. These and other risks are described in additional detail in Magenta's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, expected to be filed on or about November 3, 2022, and its other filings made with the Securities and Exchange Commission from time to time. Any forward-looking statements contained in this press release represent Magenta's views only as of today and should not be relied upon as representing its views as of any subsequent date. Magenta explicitly disclaims any obligation to update any forward-looking statements, except to the extent required by law.

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