Magenta Therapeutics Announced It Will Present Clinical and Pre-Clinical Data from Across Immune and Blood System Reset Portfolio at European Society for Blood and Marrow Transplantation (EBMT) Annual Meeting

August 31, 2020

– Magenta to present five abstracts showcasing data across clinical and pre-clinical pipeline, including mobilization and conditioning programs –

– Phase I clinical trial results confirm that MGTA-145 demonstrates same-day mobilization and collection of highly functional hematopoietic stem cells (HSCs) for transplant –

– Preclinical data from studies of Magenta's CD45-ADC conditioning agent demonstrate successful immune reset to halt disease progression in multiple models of sclerosis, systemic sclerosis and inflammatory arthritis; as well as the ability to achieve complete chimerism in allogeneic hematopoietic stem cell transplant (HSCT) –

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Aug. 31, 2020-- **Magenta Therapeutics** (NASDAQ: MGTA), a clinical-stage biotechnology company developing novel medicines to bring the curative power of stem cell transplant to more patients, today announced that data across the portfolio will be presented at the European Society for Blood and Marrow Transplantation (EBMT) annual meeting, held August 29 to September 1, 2020.

"Our presentations at EBMT showcase Magenta's integrated approach towards bringing the curative power of blood and immune system reset through stem cell transplant to more patients and across more therapeutic areas," said John Davis Jr., M.D., M.P.H., M.S., Head of Research & Development and Chief Medical Officer, Magenta Therapeutics. "We are making significant strides towards expanding eligibility and improving patient outcomes given the far-reaching potential of our programs. We are relentlessly focused on progressing our programs forward and further into the clinic and are encouraged by our steady progress. We look forward to our continued momentum across our pipeline."

All posters will be available to view on the EBMT website beginning Saturday, August 29 at 6:30am EDT / 12:30pm CET. Visitors can view the posters by accessing the Scientific Programme and selecting "ePoster viewing."

Clinical Data from MGTA-145 First-Line Stem Cell Mobilization Program:

Magenta is developing MGTA-145 as the new first-line standard of care for stem cell mobilization in a broad range of diseases, including autoimmune diseases, blood cancers and genetic diseases, such as sickle cell disease. MGTA-145, a CXCR2 agonist, works in combination with plerixafor, a CXCR4 antagonist, harnessing the physiological mechanism of stem cell mobilization to rapidly and robustly mobilize stem cells for collection and transplant.

Title: Phase 1 Clinical Study of MGTA-145 In Combination with Plerixafor Shows Rapid Single-Day Mobilization and Collection of CD34+ HSCs Without G-CSF (Abstract #B385)
Presenting Author: John DiPersio, M.D., Ph.D., Professor of Medicine and Chief of the Oncology Division, Washington University School of Medicine, St. Louis, Missouri

These data provide further confirmation that MGTA-145, in combination with plerixafor, enables the same-day mobilization and collection of highly functional hematopoietic stem cells (HSCs) for transplant. Earlier this year, Magenta completed dosing in this Phase 1 trial, achieving all primary and secondary endpoints. In the second half of 2020, the Company plans to move the MGTA-145 program into multiple Phase 2 clinical trials to include both allogeneic and autologous transplant settings across multiple diseases. These trials will evaluate mobilization and collection of functional HSCs and engraftment of these cells after transplant.

Preclinical Data from Magenta's Antibody-Drug Conjugate Conditioning Programs

Targeted, disease-modifying antibody-drug conjugates (ADCs) are designed to selectively and rapidly remove disease-causing cells in the body and enable immune and blood system reset and long-term engraftment, without the need for aggressive chemotherapy or radiation.

MGTA-117, the clinical candidate for ADC-based conditioning for stem cell transplant and gene therapy and Magenta's most advanced conditioning program, is on track with IND-enabling toxicology studies ongoing and progress in GMP manufacturing. Magenta expects to generate initial clinical data in 2021.

Title: A Single Dose of Short Half-Life CD117 Antibody Drug Conjugate Enables Hematopoietic Stem Cell-Based Gene Therapy in Non-Human Primates (Abstract #O076)
Presenting Author: Rahul Palchaudhuri, Ph.D., Magenta Therapeutics, Cambridge, Mass.

This collaborative study with the National Institutes of Health (NIH) demonstrates that a single dose of a tool CD117-ADC molecule in non-human primates enables successful transplant and long-term engraftment of HSCs modified with a lentiviral vector encoding the β-globin gene, the gene that causes sickle cell disease and β-thalassemia. The ADC was well tolerated with none of the significant side effects that are seen with myeloablative dosing of busulfan chemotherapy.

Title: A Novel Targeted Approach to Achieve Immune System Reset: CD45-Targeted Antibody-Drug Conjugates Ameliorate Disease in Preclinical Autoimmune Disease Models and Enable Auto HSCT (Abstract #O030)
Presenting Author: Geoff Gillard, Ph.D., Magenta Therapeutics, Cambridge, Mass.

Magenta's CD45-ADC program targets CD45, a protein expressed on immune cells and blood stem cells, and is designed to remove the cells that cause autoimmune diseases to enable curative immune reset. Magenta has identified a lead antibody for this program and IND-enabling work on

CD45-ADC is progressing in 2020.

Preclinical data in this abstract show that a single dose of CD45-ADC removed disease-causing T-cells, enabling successful immune reset to halt disease progression and was well tolerated in three models of autoimmune disease: multiple sclerosis, systemic sclerosis and inflammatory arthritis.

Title: A CD45-Targeted Antibody Drug Conjugate Enables Allogeneic Hematopoietic Stem Cell Transplantation as a Single Agent in Mice (Abstract #A174)
Presenting Author: Sharon Hyzy, M.S., Magenta Therapeutics, Cambridge, Mass.

Preclinical data in this abstract demonstrate that a single dose of CD45-ADC is fully myeloablative and enables complete chimerism in a full mismatch allogeneic hematopoietic stem cell transplant (HSCT), representing a substantial advance in establishing the potential of this targeted approach to conditioning to potently and safely enable immune reset in the allogeneic setting.

Title: High Dose Stem Cell Therapies, like MGTA-456, Enable Complete Neural and Peripheral Disease Cross-Correction Through Rapid and Robust Hematopoietic Engraftment (Abstract #A325)
Presenting Author: Kevin Goncalves, Ph.D., Magenta Therapeutics, Cambridge, Mass.

Preclinical data in this abstract demonstrate rapid and durable peripheral, central nervous system (CNS) and skeletal disease cross-correction after transplantation of a high HSC dose. Mechanistic studies demonstrated that CNS disease cross-correction was due to robust microglial engraftment in the brain. MGTA-456 led to more robust microglial engraftment in NSG mice, suggesting that MGTA-456 may lead to rapid and durable disease resolution in the central nervous system.

About Magenta Therapeutics

Magenta Therapeutics is a clinical-stage biotechnology company developing medicines to bring the curative power of immune system reset through stem cell transplant to more patients with autoimmune diseases, genetic diseases and blood cancers. Magenta is combining leadership in stem cell biology and biotherapeutics development with clinical and regulatory expertise, a unique business model and broad networks in the stem cell transplant world to revolutionize immune reset for more patients.

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

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This press release may contain forward-looking statements and information within the meaning of The Private Securities Litigation Reform Act of 1995 and other federal securities laws. The use of words such as “may,” “will,” “could”, “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “projects,” “seeks,” “endeavor,” “potential,” “continue” or the negative of such words or other similar expressions can be used 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 risks set forth under the caption “Risk Factors” in Magenta’s Annual Report on Form 10-K filed on March 3, 2020, as updated by Magenta’s most recent Quarterly Report on Form 10-Q and its other filings with the Securities and Exchange Commission. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this press release may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. You should not rely upon forward-looking statements as predictions of future events. Although Magenta believes that the expectations reflected in the forward-looking statements are reasonable, it cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither Magenta nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements included in this press release. Any forward-looking statement included in this press release speaks only as of the date on which it was made. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.

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