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GlycoMimetics Highlights Preclinical Data in Oral Presentation at ASH Meeting Demonstrating Impact of GMI-1271 on T Memory Stem Cells

First clinical trial initiated to evaluate mobilization and enrichment of T memory stem and T central memory cells by GMI-1271

ROCKVILLE, Md.--(BUSINESS WIRE)-- GlycoMimetics, Inc. (NASDAQ: GLYC) announced today that preclinical data on its novel E-selectin antagonist drug candidate GMI-1271, shared via an oral presentation at the 57th American Society of Hematology (ASH) annual meeting, showed the compound could be used in combination with G-CSF (filgrastim) to mobilize and enrich progenitor T cells known as T memory stem (Tscm) and T central memory (Tcm) cells, which provide improved reconstitution and persistence. The company also announced that the first healthy participant has been treated with an intravenous (IV) formulation of GMI-1271 in a Phase 1, multiple-dose clinical study to evaluate the investigational drug's ability to mobilize and enrich Tscm or Tcm cells. In addition, the trial will evaluate safety and tolerability of the drug, alone and in combination with filgrastim, a treatment for neutropenia that is approved by the U.S. Food and Drug Administration (FDA).

"We have shown via our oral presentation at ASH 2015, as well as in previous studies, that GMI-1271 has an attractive preclinical profile and, importantly, demonstrates in animal models the capacity to mobilize and enrich Tscm/cm cells, which are believed to be ideal for use in adoptive T cell therapy," said John Magnani, Ph.D., Vice President of Research and Chief Scientific Officer, GlycoMimetics. "Our studies point to GMI-1271 in combination with other therapies as an effective method for enriching this key population of T cells. We believe that this product candidate could open the door to new immunotherapies for cancer."

GMI-1271 is a novel and proprietary compound that is an antagonist to E-selectin, used in combination with chemotherapy in patients with acute myeloid leukemia (AML). Earlier this year, the FDA granted Orphan Drug status to GMI-1271 for the treatment of AML.

The Phase 1 study will recruit approximately 42 healthy participants at one center in the United States. The participants will receive multiple doses of IV GMI-1271 alone, or with multiple subcutaneous (SC) doses of filgrastim, and will be evaluated for white blood cell counts, including subsets of CD8+ T cells. In this Phase 1 study, researchers want to understand the potential effects of GMI-1271 as adjunctive treatment to filgrastim. The company anticipates reporting top line data in the second quarter of 2016.

The abstract for the oral presentation from ASH 2015 (Abstract #512), entitled "Mobilization of CD8+ Central Memory T-Cells with Enhanced Reconstitution Potential in Mice By a Combination of G-CSF and GMI-1271-Mediated E-Selectin Blockade," is available at ASH's website.

About GMI-1271

GMI-1271 is an antagonist of E-selectin, a molecule that normally aids in adhesion of white blood cells to endothelial cells during inflammation responses, but also can be used by cancer cells to invade the immune cell system. GMI-1271 is being evaluated as adjunctive treatment to standard cytotoxic chemotherapy in patients with hematologic malignancies, particularly in AML, in elderly patients with *de novo* AML, and in multiple myeloma. GlycoMimetics is conducting this Phase 1 trial in addition to an ongoing Phase 1/2 trial designed to evaluate the safety, pharmacokinetics (PK) and efficacy of GMI-1271, which began in May. The Phase 1/2 trial is an open-label multicenter study designed to determine safety, PK and efficacy of the compound in combination with chemotherapy among male and female patients with AML. Last year, GMI-1271 successfully completed a Phase 1 study among healthy volunteers.

About GlycoMimetics, Inc.

GlycoMimetics is a clinical stage biotechnology company focused on the discovery and development of novel glycomimetic drugs to address unmet medical needs resulting from diseases in which carbohydrate biology plays a key role. GlycoMimetics entered into an exclusive license agreement with Pfizer for rivipansel in October 2011. Under the license agreement, Pfizer is responsible for the clinical development, regulatory approval and potential commercialization of rivipansel, which is currently being evaluated in a Phase 3 study for treatment of vaso-occlusive crisis of sickle cell disease.

GlycoMimetics's wholly-owned drug candidate (GMI-1271) for AML and other blood disorders is also in clinical trials. Glycomimetics are molecules that mimic the structure of carbohydrates involved in important biological processes. Using

its expertise in carbohydrate chemistry and knowledge of carbohydrate biology, GlycoMimetics is developing a pipeline of glycomimetic drug candidates that inhibit disease-related functions of carbohydrates, such as the roles they play in inflammation, cancer and infection. Learn more at www.glycomimetics.com.

Cautionary Note Regarding Forward-Looking Statements

This press release contains forward-looking statements regarding the clinical development of the GMI-1271 and the presentation of data. Actual results may differ materially from those in these forward-looking statements. For a further description of the risks associated with these statements, as well as other risks facing GlycoMimetics, please see the risk factors described in the company's annual report on Form 10-K that was filed with the U.S. Securities and Exchange Commission on March 16, 2015, and other filings the company makes with the SEC from time to time. Forward-looking statements speak only as of the date of this release, and GlycoMimetics undertakes no obligation to update or revise these statements, except as may be required by law.

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