GlycoMimetics GMI-1359 Data Selected for Presentation at 63rd American Society of Hematology (ASH) Annual Meeting and Exposition

November 11, 2021

- *Two poster presentations detailing preclinical studies conducted at MD Anderson Cancer Center will highlight data demonstrating the potential of the Company's dual antagonist of CXCR4 and E-selectin*

ROCKVILLE, Md.--(BUSINESS WIRE)--Nov. 11, 2021-- GlycoMimetics, Inc. (Nasdaq: GLYC) today announced that two abstracts relating to GMI-1359, the Company's dual antagonist of CXCR4 and E-selectin, have been accepted for poster presentations at the 63 rd American Society of Hematology (ASH) Annual Meeting and Exposition, to be held December 11-14, 2021.

"The data to be presented at ASH provide further support for targeting both CXCR4 and E-selectin as a novel treatment strategy for patients with AML, particularly patients with FLT-3 ITD mutations. Both posters detail preclinical studies conducted at the MD Anderson Cancer Center at the University of Texas in Houston, under the direction of Dr. Michael Andreeff. The first poster (#1171) describes the unexpected activities of FLT-3 inhibitors such as quizartinib and sorafenib to upregulate the expression of E-selectin ligands (sialyl Lex) and CXCR4 thereby increasing adhesion to protective niches in the bone marrow microenvironment and inducing chemoresistance. The addition of GMI-1359 to quizartinib in a PDX mouse model from a relapsed patient broke this induced chemoresistance, leading to a dramatic reduction in leukemic burden and a near-doubling of survival time**.** The second (#3348) demonstrates that GMI-1359 reduced adhesion and stimulated mobility of leukemic stem cells within the bone marrow microenvironment. In AML mouse models, GMI-1359 increased the efficacy and extended survival time in engrafted mice treated with venetoclax/HMA while protecting the hematopoietic stem cells and the bone marrow components from this treatment," said John Magnani, GlycoMimetics' Chief Scientific Officer.

Details on GlycoMimetics posters at the ASH Meeting are as follows:

1. Poster# 1171

Title: FLT3 Inhibitors Upregulate CXCR4 and E-selectin Ligands and CD44 Via ERK Suppression in AML Cells, and Blockade of CXCR4 and E-selectin Signaling with GMI-1359 Overcomes AML Resistance to Quizartinib In Vitro and In Vivo.
Authors: Y. Jia, M. Basyal, L. Ostermann, W.E. Fogler, J.L. Magnani, T. Seki, W. Zhang, M. Andreeff
Session Name: 604. Molecular Pharmacology and Drug Resistance: Myeloid Neoplasms: Poster I
Date/Time: Saturday, December 11, 5:30-7:30 p.m. ET, Georgia World Congress Center, Hall B5

2. Poster# 3348

Title: Co-targeting E-selectin/CXCR4 with GMI-1359 Facilitates AML Stem Cell Mobilization and Protects BM Niches from Anti-leukemia Therapy.
Authors: K.-H. Chang, T. Zal, M. Basyal, L. Ostermann, M. Muftuoglu, P. Y. Mak, Y. Jia, W. Tao, A. Zal, W.E. Fogler, J.L. Magnani, W. Zhang, B.Z. Carter, M. Andreeff
Session Name: 604. Molecular Pharmacology and Drug Resistance: Myeloid Neoplasms: Poster III
Date /Time: Monday, December 13, 6:00-8:00 p.m. ET, Georgia World Congress Center, Hall B5

The accepted abstracts are available online through the ASH meeting website.

About GMI-1359

GMI-1359 is designed to simultaneously inhibit both E-selectin and CXCR4 — both adhesion molecules involved in tumor trafficking and metastatic spread. Preclinical studies indicate that targeting both E-selectin and CXCR4 with a single compound could improve efficacy in the treatment of cancers that involve the bone marrow such as AML and multiple myeloma or in solid tumors that metastasize to the bone, such as prostate cancer and breast cancer, as well as in osteosarcoma, a rare pediatric tumor. GMI-1359 has received Orphan Drug Designation and Rare Pediatric Disease Designation from the FDA for the treatment of osteosarcoma, a rare cancer affecting about 900 adolescents a year in the United States.

About GlycoMimetics, Inc.

GlycoMimetics is a clinical-stage biotechnology company discovering and developing glycobiology-based therapies for cancers, including acute myeloid leukemia (AML), and for inflammatory diseases with high unmet need. The Company's science is based on an understanding of the role that carbohydrates play on the surface of every living cell and applying its specialized chemistry platform to discover small molecule drugs, known as glycomimetics, which alter these carbohydrate-mediated pathways in a variety of disease states, including signaling in cancer and inflammation. As a leader in this space, GlycoMimetics is leveraging this unique targeted approach to advance its pipeline of wholly owned drug candidates, with the goal of developing transformative therapies for serious diseases. GlycoMimetics is located in Rockville, MD in the BioHealth Capital Region. Learn more at www.glycomimetics.com.

Forward-Looking Statements

This press release contains forward-looking statements. These forward-looking statements include those relating to the planned or potential clinical development and commercialization of the Company's product candidates, as well as the presentation of data from preclinical studies and clinical trials, and the potential benefits and impact of the Company's drug candidates. Actual results may differ materially from those described 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 filed with the U.S. Securities and Exchange Commission (SEC) on March 2, 2021, and other filings GlycoMimetics 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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