GlycoMimetics Program Data to be Highlighted Via Three Oral Presentations and Two Posters at 62nd American Society of Hematology Annual Meeting and Exposition

November 4, 2020

- *Data highlight the importance of early intervention with E-selectin inhibitors to disrupt inflammatory mechanisms driving acute vaso-occlusive crisis (VOC) in sickle cell disease (SCD)*
- *Additional presentations highlight multiple E-selectin inhibition strategies and their potential to treat acute myeloid leukemia (AML)*

ROCKVILLE, Md.--(BUSINESS WIRE)--Nov. 4, 2020-- GlycoMimetics, Inc. (Nasdaq: GLYC) today announced that three abstracts including data from the Company's clinical and research portfolio have been accepted for oral presentations and two abstracts have been accepted for poster presentations at the 62nd American Society of Hematology (ASH) Annual Meeting and Exposition, to be held virtually December 5-8, 2020.

Of particular note are primary and key secondary endpoint data from additional analysis of the Phase 3 RESET study evaluating the efficacy of rivipansel in VOC. These findings point to the potential benefits, clinical improvements and improved outcomes associated with early treatment with GlycoMimetics' wholly-owned product candidate, which include shorter hospital stays for patients and reduced need for IV opioids to treat pain.

A second presentation includes data from two different preclinical models of VOC using GlycoMimetics' highly potent and specific E-selectin antagonist, GMI-1687. This presentation will highlight the product candidate's potential for intravenous and subcutaneous administration to treat VOC by inhibiting occlusions and restoring blood flow.

A third presentation discloses how targeting E-selectin with uproleselan may help patients with AML overcome resistance to venetoclax combined with hypomethylating agent (HMA) based therapy.

Poster presentations convey how GMI-1359, a rationally-designed small molecule that inhibits E-selectin and CXCR4 (a chemokine receptor), enhances sorafenib's anti-leukemia effect in pre-clinical AML models; and how GMI-1359 can uniquely generate motility-enhancing signals in AML cells and deplete AML cells from protective vascular niches in the bone marrow.

"GlycoMimetics is honored to have five abstracts from across our product candidate portfolio selected for presentations at this year's ASH meeting. The data convey new insights into the critical role of E-selectin in both malignant and inflammatory, adhesion-mediated conditions, suggesting novel treatment options for unmet need in sickle cell disease and AML," said Helen Thackray, MD, FAAP, GlycoMimetics' Chief Medical Officer.

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

Title: Restoration of Normal Blood Flow in Mouse Models of Sickle Cell Vaso-occlusion Following Intravenous or Subcutaneous Administration of a Highly Potent E-Selectin Specific Inhibitor.
Presenters: Madhan Thamilarasan, William E. Fogler, John L. Magnani and Rahima Zennadi.
Session: 113 Hemoglobinopathies, Excluding Thalassemia—New Genetic Approaches to Sickle Cell Disease: New Insights Into Sickle Cell Disease Pathophysiology.
Date and Time: December 5, 2020. 2:00 – 3:30 p.m. EST
Presentation Time: 2:45 p.m.

Title: Targeting E-selectin with GMI-1271 Overcomes Microenvironment-mediated Resistance to Venetoclax/HMA Therapy.
Presenters: Kyung Hee Chang, Muharrem Muftuoglu, Weiguo Zhang, Mahesh Basyal, Lauren Ostermann, William E. Fogler, John L. Magnani and Michael Andreeff.
Session: 604 Molecular Pharmacology and Drug Resistance in Myeloid Diseases.
Date and Time: Saturday, December 5, 2020. 2:00 - 3:30 p.m.
Presentation Time: 3:15 p.m.

Title: Dual CXCR4 and E-selectin Inhibition (GMI-1359) Rapidly Increases AML Cellular Motility Prior to Intravasation and Vascular Niche Depletion Observed by Intravital Bone Marrow 2-Photon Microscopy.
Presenters: Tomasz Zal, M. Anna Zal, Mateusz Rytelewski, Kyung Hee Chang, Rodrigo Jacamo, William E. Fogler, John L. Magnani and Michael Andreeff.
Session: 616 Acute Myeloid Leukemia: Novel Therapy, excluding Transplantation: Poster II.
Date: Sunday, December 6, 2020.
Virtual Poster Hall: 7 a.m. – 3:30 p.m.

Title: Combined Blockage of E-selectin and CXCR4 (GMI-1359) Enhances Anti-Leukemia Effect of FLT3 Inhibition (Sorafenib) and Protects Hematopoiesis in Pre-clinical AML Models.
Presenters: Weiguo Zhang, Kyung Hee Chang, Mahesh Basyal, Yannan Jia, Lauren Ostermann, William E. Fogler, John L. Magnani, M. Anna Zal, Tomasz Zal and Michael Andreeff.
Session: 616 Acute Myeloid Leukemia: Novel Therapy, excluding Transplantation: Poster III.
Date: Monday, December 7, 2020.
Virtual Poster Hall: 7 a.m. – 3:30 p.m.

Title: Early Initiation of Treatment with Rivipansel for Acute Vaso-Occlusive Crisis in Sickle Cell Disease (SCD) Achieves Earlier Discontinuation of IV Opioids and Shorter Hospital Stay: Reset Clinical Trial Analysis
Presenter: Helen Thackray
Session Name: 114 Hemoglobinopathies, Excluding Thalassemia—Clinical: Novel Treatments for Sickle Cell Disease
Date and Time: Monday, December 7, 2020**.** 1:30 - 3:00 p.m.
Presentation Time: 1:45 p.m.

The accepted abstracts are available online through the ASH meeting website, https://ash.confex.com/ash/2020/webprogram/start.html

About Rivipansel

Rivipansel, the company's wholly-owned glycomimetic drug candidate that binds to all three members of the selectin family (E-, P- and L-selectin), was GlycoMimetics' first candidate to enter clinical development. After the Phase 3 RESET trial conducted by Pfizer, GlycoMimetics' former collaborator, did not meet its primary or key secondary efficacy endpoints in 2019, new efficacy data from an additional analysis of rivipansel were published in June 2020 and subsequently presented at the Foundation for Sickle Cell Disease Research Meeting in September 2020. GlycoMimetics is engaging with the FDA to identify what, if any, next steps to take, with a focus on determining if there is a potential streamlined path forward for this asset in sickle cell disease.

About GMI-1687

Discovered and developed by GlycoMimetics, GMI-1687 is a highly-targeted, highly-potent E-selectin antagonist. It has been shown in preclinical studies to be bioavailable via subcutaneous administration. At the 2018 Annual Meeting of the American Society of Hematology, data presented in a poster about GMI-1687 pointed to the potential for a life-cycle extension for GlycoMimetics' uproleselan. The investigational drug has also been shown to represent a more highly-potent and subcutaneously bioavailable potential life-cycle extension for rivipansel.

About Uproleselan (GMI-1271)

Discovered and developed by GlycoMimetics, uproleselan is an investigational, first-in-class, targeted inhibitor of E-selectin. Uproleselan (yoo' pro le' sel an), currently in a comprehensive Phase 3 development program in AML, has received Breakthrough Therapy Designation from the U.S. FDA for the treatment of adult AML patients with relapsed or refractory disease. Uproleselan is designed to block E-selectin (an adhesion molecule on cells in the bone marrow) from binding with blood cancer cells as a targeted approach to disrupting well-established mechanisms of leukemic cell resistance within the bone marrow microenvironment. In a Phase 1/2 clinical trial, uproleselan was evaluated in both newly diagnosed elderly and relapsed or refractory patients with AML. In both populations, patients treated with uproleselan together with standard chemotherapy achieved better-than-expected remission rates and overall survival compared to historical controls, which have been derived from results from third-party clinical trials evaluating standard chemotherapy, as well as lower-than-expected induction-related mortality rates. Treatment in these patient populations was generally well-tolerated, with fewer than expected adverse effects.

About GMI-1359

GMI-1359 is designed to simultaneously inhibit both E-selectin and CXCR4. E-selectin and CXCR4 are 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 completed a Phase 1 clinical trial in healthy volunteers. The Duke University Phase 1b clinical study in breast cancer patients is designed to enable investigators to identify an effective dose of the drug candidate and to generate initial biomarker data around the drug's activity. 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 biotechnology company with two late-stage clinical development programs and a pipeline of novel glycomimetic drugs, all designed to address unmet medical needs resulting from diseases in which carbohydrate biology plays a key role. GlycoMimetics' drug candidate, uproleselan, an E-selectin antagonist, was evaluated in a Phase 1/2 clinical trial as a potential treatment for acute myeloid leukemia (AML) and is being evaluated across a range of patient populations including a Company-sponsored Phase 3 trial in relapsed/refractory AML under breakthrough therapy designation. Rivipansel, a pan-selectin antagonist, is being explored for use in treatment of acute VOC in SCD. GlycoMimetics has also completed a Phase 1 clinical trial with another wholly-owned drug candidate, GMI-1359, a combined CXCR4 and E-selectin antagonist. 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 regarding preclinical data, clinical development and potential benefits and impact of the Company's drug candidates. These forward-looking statements include those relating to the planned or potential clinical development of the Company's product candidates, including the Company's engagement with regulatory authorities and the presentation of data from preclinical studies and clinical trials. 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 February 28, 2020, 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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