



GlycoMimetics, Inc.

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Nature Reviews: Drug Discovery Article Describes Design of Glycomimetic Compounds and Newly "Druggable" Disease Targets

Significant Therapeutic Potential of Carbohydrate Mimics Including GMI-1070 Recognized

GAITHERSBURG, Md. – July 24, 2009 -- GlycoMimetics, Inc. today announced the publication of an article in Nature Reviews: Drug Discovery describing how novel small molecule compounds that mimic carbohydrates can be successfully designed and optimized to treat cancer, inflammatory disorders and other diseases.

Carbohydrates play essential roles in human biology and disease processes, but have been a relatively untapped source for new drugs due to poor pharmaceutical properties of the naturally occurring molecules. The article published in Nature Reviews: Drug Discovery describes how researchers have successfully taken a distinct approach to developing new agents, known as glycomimetics. These novel compounds mimic carbohydrates and are capable of targeting disease-related carbohydrate-mediated functions. GlycoMimetics, Inc. has been applying its advanced understanding of carbohydrate chemistry to the development of a pipeline of promising glycomimetic product candidates, including GMI-1070, a pan-selectin inhibitor.

The article, "From Carbohydrate Leads to Glycomimetic Drugs," appears on July 24, 2009 in the advance online publication and in the August 1, 2009 print edition of Nature Reviews: Drug Discovery and is co-authored by John L. Magnani, Ph.D., Chief Scientific Officer of GlycoMimetics, Inc. and Beat Ernst, Ph.D., Professor of Molecular Pharmacy at the University of Basel, Switzerland.

"Carbohydrates play vital roles in many diseases, and act as key recognition molecules in both normal and pathological conditions," said Dr. Magnani. "The entire field has been achieving important advances in understanding exactly how carbohydrates function. These advances present opportunities for the rational design of new small-molecule drugs with desirable pharmacological properties that address a broad range of therapeutic targets for serious diseases."

GMI-1070 is an example of a rationally designed glycomimetic inhibitor whose structure is presented in the review. It is an antagonist of E-, P- and L-selectins, and inhibits a key early step in the inflammatory process leading to leukocyte adhesion and recruitment to inflamed tissue. In preclinical studies, GMI-1070 restored blood flow to affected vessels of sickle cell animals experiencing vaso-occlusive crisis by mediating the acute adhesion and aggregation of leukocytes and erythrocytes. GMI-1070 has completed Phase 1 clinical trials, and planning is underway for a

Phase 2 study in sickle cell patients undergoing vaso-occlusive crisis. In Phase 1 studies, GMI-1070 was well tolerated and demonstrated drug-like properties in pharmacokinetic and metabolic evaluations.

"GMI-1070 is just the first of several rationally designed carbohydrate mimics in a pipeline of drug candidates based on our platform chemistry," said Rachel King, CEO of GlycoMimetics, Inc. "The data from the clinic has been encouraging, and we're very excited about the potential of GMI-1070 in treating sickle cell patients, as well as therapeutic applications for the entire class of these new agents."

About Sickle Cell Disease and Vaso-Occlusive Crisis

Vaso-occlusive crisis is the main clinical feature of sickle cell disease, often resulting in significant clinical complications, and sometimes death. Currently, there are no mechanism-based therapies for treatment of vaso-occlusive crisis. Treatment consists primarily of supportive therapy in the form of hydration and pain control, typically requiring hospitalization for five to six days. There are more than 75,000 hospitalizations per year associated with vaso-occlusive crisis in the U.S.

About GMI-1070

GlycoMimetics' lead compound, GMI-1070, is a rationally-designed glycomimetic inhibitor of E-, P- and L-selectins, and inhibits a key early step in the inflammatory process leading to leukocyte adhesion, extravasation and recruitment to inflamed tissue. GMI-1070 has been shown to be active in several models of diseases in which leukocyte adhesion and activation play a key role, including vaso-occlusive crisis of sickle cell disease. GMI-1070 is also being evaluated in preclinical studies for the treatment of certain hematologic cancers, where selectin-mediated cell adhesion and migration is known to play a key role in the disease process. Phase 1 clinical trials of GMI-1070 were completed earlier this year, with a pilot study in sickle cell patients planned in 2009.

About GlycoMimetics, Inc.

GlycoMimetics, Inc. is a privately held biotechnology company that capitalizes on advances in the field of glycobiology. GlycoMimetics uses rational design of small molecule drugs that mimic the functions of bioactive carbohydrates to develop new drug candidates. The company's initial focus is on therapeutics to treat inflammation, cancer, and infectious diseases. More information is available at the company's web site: <http://www.glycomimetics.com>.