



401 Professional Drive, Suite 250
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VIA EDGAR

January 6, 2014

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Mail Stop 4720
Washington, D.C. 20549

Attn: Mr. Matthew Jones
Mr. Dan Greenspan
Mr. Jeffrey Riedler

Re: **GlycoMimetics, Inc.**
Registration Statement on Form S-1
File No. 333-191567

Acceleration Request

Requested Date: Wednesday, January 8, 2014
Requested Time: 4:00 P.M. Eastern Standard Time

Gentlemen:

In accordance with Rule 461 under the Securities Act of 1933, as amended, the undersigned registrant (the "**Registrant**") hereby requests that the Securities and Exchange Commission (the "**Commission**") take appropriate action to cause the above-referenced Registration Statement on Form S-1 to become effective on January 8, 2014, at 4:00 p.m., Eastern Standard Time, or as soon thereafter as is practicable, or at such later time as the Registrant may orally request via telephone call to the staff (the "**Staff**"). The Registrant hereby authorizes each of Brent Siler, Darren DeStefano and Brian Leaf of Cooley LLP, counsel to the Registrant, to make such request on its behalf.

Once the Registration Statement has been declared effective, please orally confirm that event with Brian Leaf of Cooley LLP, counsel to the Registrant, at (703) 456-8053.

In connection with this request, the Registrant acknowledges that:

- should the Commission or the Staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the Staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the Registrant from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the Registrant may not assert Staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Very truly yours,

GlycoMimetics, Inc.

By: /s/ Rachel K. King
Rachel K. King
Chief Executive Officer

cc: Brent B. Siler, Cooley LLP
Darren DeStefano, Cooley LLP
Brian F. Leaf, Cooley LLP
Divakar Gupta, Latham & Watkins