UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): June 2, 2016

GLYCOMIMETICS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation)

001-36177 (Commission File No.) 06-1686563 (IRS Employer Identification No.)

9708 Medical Center Drive Rockville, MD 20850

(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (240) 243-1201

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- □ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- □ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- □ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01. Other Events.

On March 1, 2016, GlycoMimetics, Inc. (the "Company") entered into an at-the-market issuance sales agreement (the "Agreement") with Cowen and Company, LLC ("Cowen") under which the Company may offer and sell, from time to time at its sole discretion, shares of its common stock, par value \$0.001 per share (the "Common Stock"), having an aggregate offering price of up to \$40,000,000 through Cowen as its sales agent. Also on March 1, 2016, the Company filed a prospectus supplement offering up to \$19,000,000 of shares of its Common Stock in accordance with the Agreement. On June 2, 2016, the Company filed Amendment No. 1 to prospectus supplement to increase the offering to \$40,000,000 of shares of its Common Stock, including the shares of Common Stock that have already been sold under the Agreement.

The purpose of this Current Report on Form 8-K is to file an opinion in connection with the increase in the size of the offering in Amendment No. 1 to the prospectus supplement. A copy of the opinion of Cooley LLP relating to the legality of the shares of Common Stock that may be issued pursuant to the Agreement is attached as Exhibit 5.1 to this Current Report on Form 8-K.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Number	Description
5.1	Opinion of Cooley LLP
23.1	Consent of Cooley LLP (included in Exhibit 5.1)
	2

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

GLYCOMIMETICS, INC.

Date: June 2, 2016 By: /s/ Brian M. Hahn

Brian M. Hahn Chief Financial Officer

EXHIBIT INDEX

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	4



Brian F. Leaf T: +1 703 456 8053 bleaf@cooley.com

June 2, 2016

GlycoMimetics, Inc. 9708 Medical Center Drive Rockville, MD 20850

Ladies and Gentlemen:

We have acted as counsel to GlycoMimetics, Inc., a Delaware corporation (the "Company"), in connection with the sale of shares of its common stock, par value \$0.001 per share, having an aggregate offering price of up to \$40,000,000 (the "Shares") pursuant to the Registration Statement on Form S-3 (File No. 333-202808) (the "Registration Statement") and the related Prospectus, Prospectus Supplement and Amendment No. 1 to Prospectus Supplement filed with the Securities and Exchange Commission (the "Commission") and that certain Sales Agreement, dated March 1, 2016, by and between the Company and Cowen and Company, LLC (the "Agreement"). All of the Shares are to be sold by the Company as described in the Registration Statement and related Prospectus, Prospectus Supplement and Amendment No. 1 to Prospectus Supplement and the Agreement.

In connection with this opinion, we have examined the Registration Statement and related Prospectus, Prospectus Supplement and Amendment No. 1 to Prospectus Supplement, your Certificate of Incorporation and Bylaws, each as currently in effect, and such other documents, records, certificates, memoranda and other instruments as we deem necessary as a basis for this opinion. We have assumed the genuineness and authenticity of all documents submitted to us as originals, and the conformity to originals of all documents submitted to us as copies thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters.

We have assumed (i) that no more than 4,807,692 Shares will be sold, based on a sale price of \$8.32 per share, representing the last reported sale price of the Company's common stock on the NASDAQ Global Select Market on June 1, 2016, (ii) that no Shares will be sold that would cause the Company to not satisfy the eligibility requirements for use of Form S-3 (including Instruction I.B.6. thereof), and (iii) that the sale of the Shares will be duly authorized by the Board of Directors of the Company or a duly authorized committee thereof. With respect to our opinion as to the Shares to be issued after the date hereof, we express no opinion to the extent that, notwithstanding its current reservation of shares of Common Stock issuable under the Agreement, future issuances of securities of the Company and/or anti-dilution adjustments to outstanding securities of the Company cause the number of shares of Common Stock issuable upon conversion or exercise of outstanding securities



June 2, 2016 Page 2

of the Company to equal or exceed the number of shares of Common Stock that remain authorized but unissued.

Our opinion is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that the laws of any other jurisdiction are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal or state antifraud law, rule or regulation relating to securities, or to the sale or issuance thereof.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Registration Statement and related Prospectus, Prospectus Supplement and Amendment No. 1 to Prospectus Supplement, will be validly issued, fully paid, and nonassessable.

Our opinion is based on these laws as in effect on the date hereof, and we disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein.

We consent to the filing of this opinion as an exhibit to the Company's Current Report on Form 8-K filed with the Commission on or about June 2, 2016.

Cooley LLP

By:/s/ Brian F. Leaf

Very truly yours,

Brian F. Leaf

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