

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 10-Q

(Mark one)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended March 31, 2019

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number 001-36177

GlycoMimetics, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

9708 Medical Center Drive
Rockville, Maryland
(Address of principal executive offices)

06-1686563
(I.R.S. Employer
Identification No.)

20850
(Zip Code)

(240) 243-1201

(Registrant's telephone number, including area code)

N/A

(Former name, former address and former fiscal year, if changed since last report)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Smaller reporting company

Non-accelerated filer Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes No

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$0.001 par value	GLYC	The Nasdaq Stock Market

The number of outstanding shares of the registrant's common stock, par value \$0.001 per share, as of the close of business on April 30, 2019 was 43,181,169.

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Part I. FINANCIAL INFORMATION**Item 1. Financial Statements****GLYCOMIMETICS, INC.
Balance Sheets**

	March 31, 2019	December 31, 2018
Assets	(Unaudited)	
Current assets:		
Cash and cash equivalents	\$ 195,560,926	\$ 209,917,595
Prepaid expenses and other current assets	2,828,959	2,351,524
Total current assets	198,389,885	212,269,119
Property and equipment, net	962,241	957,226
Prepaid research and development expenses	1,560,607	1,560,607
Deposits	52,320	52,320
Operating lease right-of-use asset	3,476,452	—
Total assets	<u>\$ 204,441,505</u>	<u>\$ 214,839,272</u>
Liabilities & stockholders' equity		
Current liabilities:		
Accounts payable	\$ 1,866,937	\$ 2,663,579
Accrued bonuses	517,361	1,727,184
Accrued expenses	5,182,626	4,273,620
Operating lease liabilities	739,930	—
Deferred rent	—	98,771
Total current liabilities	8,306,854	8,763,154
Noncurrent operating lease liabilities	3,341,056	—
Deferred rent, net of current portion	—	611,623
Total liabilities	11,647,910	9,374,777
Stockholders' equity:		
Preferred stock; \$0.001 par value; 5,000,000 shares authorized, no shares issued and outstanding at March 31, 2019 and December 31, 2018	—	—
Common stock; \$0.001 par value; 100,000,000 shares authorized, 43,180,169 shares issued and outstanding at March 31, 2019; 100,000,000 shares authorized, 43,160,751 shares issued and outstanding at December 31, 2018	43,179	43,159
Additional paid-in capital	407,385,052	405,972,075
Accumulated deficit	(214,634,636)	(200,550,739)
Total stockholders' equity	192,793,595	205,464,495
Total liabilities and stockholders' equity	<u>\$ 204,441,505</u>	<u>\$ 214,839,272</u>

The accompanying notes are an integral part of the unaudited financial statements.

GLYCOMIMETICS, INC.
Unaudited Statements of Operations and Comprehensive Loss

	<u>Three Months Ended March 31,</u>	
	<u>2019</u>	<u>2018</u>
Revenue	\$ —	\$ —
Costs and expenses:		
Research and development expense	11,772,666	9,021,423
General and administrative expense	3,360,448	2,855,125
Total costs and expenses	15,133,114	11,876,548
Loss from operations	(15,133,114)	(11,876,548)
Interest income	1,049,217	363,704
Net loss and comprehensive loss	\$ (14,083,897)	\$ (11,512,844)
Basic and diluted net loss per common share	\$ (0.33)	\$ (0.33)
Basic and diluted weighted average number of common shares	43,166,967	35,156,090

The accompanying notes are an integral part of the unaudited financial statements.

GLYCOMIMETICS, INC.
Unaudited Statements of Stockholders' Equity

	Three Months Ended March 31, 2019				
	Common Stock		Additional	Accumulated	Total
	Shares	Amount	Paid-In	Deficit	Stockholders'
Balance at December 31, 2018	43,160,751	\$43,159	\$405,972,075	\$(200,550,739)	\$205,464,495
Exercise of options	19,418	20	30,534	—	30,554
Stock-based compensation	—	—	1,382,443	—	1,382,443
Net loss	—	—	—	(14,083,897)	(14,083,897)
Balance at March 31, 2019	43,180,169	\$43,179	\$407,385,052	\$(214,634,636)	\$192,793,595

	Three Months Ended March 31, 2018				
	Common Stock		Additional	Accumulated	Total
	Shares	Amount	Paid-In	Deficit	Stockholders'
Balance at December 31, 2017	34,359,799	\$34,358	\$271,944,173	\$(152,277,106)	\$119,701,425
Issuance of common stock, net of issuance costs	8,050,000	8,050	128,427,950	—	128,436,000
Exercise of options and warrants	80,311	81	298,708	—	298,789
Stock-based compensation	—	—	1,115,830	—	1,115,830
Net loss	—	—	—	(11,512,844)	(11,512,844)
Balance at March 31, 2018	42,490,110	42,489	401,786,661	(163,789,950)	238,039,200

The accompanying notes are an integral part of the unaudited financial statements.

GLYCOMIMETICS, INC.
Unaudited Statements of Cash Flows

	<u>Three Months Ended March 31,</u>	
	<u>2019</u>	<u>2018</u>
Operating activities		
Net loss	\$ (14,083,897)	\$ (11,512,844)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	70,441	68,757
Amortization of operating lease right-of-use asset	149,686	—
Stock-based compensation expense	1,382,443	1,115,830
Changes in assets and liabilities:		
Prepaid expenses and other current assets	(561,897)	(182,401)
Accounts payable	(832,560)	1,206,896
Accrued expenses and bonuses	(300,817)	(887,737)
Operating lease liabilities	(171,084)	(17,325)
Net cash used in operating activities	(14,347,685)	(10,208,824)
Investing activities		
Purchases of property and equipment	(39,538)	(16,618)
Net cash used in investing activities	(39,538)	(16,618)
Financing activities		
Proceeds from issuance of common stock, net of issuance costs	—	128,634,000
Proceeds from exercise of stock options and warrants	30,554	298,789
Net cash provided by financing activities	30,554	128,932,789
Net change in cash and cash equivalents	(14,356,669)	118,707,347
Cash and cash equivalents, beginning of period	209,917,595	123,924,738
Cash and cash equivalents, end of period	<u>\$ 195,560,926</u>	<u>\$ 242,632,085</u>
Non-cash investing and financing activities		
Property acquisition costs included in accrued expenses	\$ 35,918	\$ —
Issuance costs associated with financing included in accrued expenses	\$ —	\$ 198,000

The accompanying notes are an integral part of the unaudited financial statements.

GLYCOMIMETICS, INC.
Notes to Unaudited Financial Statements

1. Description of the Business

GlycoMimetics, Inc. (the Company), a Delaware corporation headquartered in Rockville, Maryland, was incorporated in April 2003. The Company is a clinical-stage biotechnology company focused on the discovery and development of novel glycomimetic drugs to address unmet medical needs resulting from diseases in which carbohydrate biology plays a key role. Glycomimetics are molecules that mimic the structure of carbohydrates involved in important biological processes. Using its expertise in carbohydrate chemistry and knowledge of carbohydrate biology, the Company is developing a pipeline of proprietary glycomimetics that inhibit disease-related functions of carbohydrates, such as the roles they play in inflammation, cancer and infection.

The Company's executive personnel have devoted substantially all of their time to date to the planning and organization of the Company, the process of hiring scientists and other personnel, initiating and overseeing research and development programs, including planned and ongoing clinical trials, and securing adequate capital for anticipated growth and operations. The Company has not commercialized any of its drug candidates or commenced commercial operations. The Company is subject to a number of risks similar to those of other companies in similar development stages, including dependence on key individuals, the need to develop commercially viable drugs, the need to successfully compete with other companies, many of whom are larger and better capitalized, and the need to obtain adequate additional financing to fund the development of its drug candidates. The Company has incurred significant operating losses since inception and has relied on its ability to fund its operations through private and public equity financings, and management expects operating losses and negative operating cash flows to continue for the foreseeable future. As the Company continues to incur losses, profitability will be dependent upon the successful development, approval and commercialization of its drug candidates and achieving a level of revenues adequate to support the Company's cost structure. The Company may never achieve profitability, and unless and until it does, the Company will continue to need to raise additional capital. The Company believes that its currently available funds will be sufficient to fund the Company's operations through at least 12 months from the date of the filing of this Quarterly Report. Management intends to fund future operations through additional public or private equity or debt offerings and potential future milestone and royalty payments from Pfizer, as described in Note 9, "Research and License Agreements," and may seek additional capital through arrangements with strategic partners or from other sources.

2. Significant Accounting Policies

Basis of Accounting

The accompanying financial statements were prepared based on the accrual method of accounting in accordance with U.S. generally accepted accounting principles (GAAP).

Unaudited Financial Statements

The accompanying balance sheet as of March 31, 2019, statements of operations and comprehensive loss, statements of stockholders' equity and statements of cash flows for the three months ended March 31, 2019 and 2018 are unaudited. These unaudited financial statements have been prepared in accordance with the rules and regulations of the United States Securities and Exchange Commission (the SEC) for interim financial information. Accordingly, they do not include all of the information and footnotes required by GAAP for complete annual financial statements. These financial statements should be read in conjunction with the audited financial statements and the accompanying notes for the year ended December 31, 2018 contained in the Company's Annual Report on Form 10-K filed with the SEC on March 6, 2019. The unaudited interim financial statements have been prepared on the same basis as the annual financial statements and, in the opinion of management, reflect all adjustments (consisting of normal recurring adjustments) necessary to state fairly the Company's financial position as of March 31, 2019, its results of operations for the three months ended March 31, 2019 and 2018, changes in its stockholders' equity for the three months ended March 31, 2019 and 2018 and its cash flows for the three months ended March 31, 2019 and 2018. The December 31, 2018 balance sheet included herein was derived from audited financial statements, but does not include all disclosures including notes required by GAAP for complete annual financial statements. The financial data and other information disclosed in these

notes to the financial statements related to the three months ended March 31, 2019 and 2018 are unaudited. Interim results are not necessarily indicative of results for an entire year or for any future period.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Although actual results could differ from those estimates, management does not believe that such differences would be material.

Fair Value Measurements

The Company had no assets or liabilities that were measured using quoted prices for similar assets and liabilities or significant unobservable inputs (Level 2 and Level 3 assets and liabilities, respectively) as of March 31, 2019 and December 31, 2018. The carrying value of cash held in money market funds of \$193.6 million and \$207.9 million as of March 31, 2019 and December 31, 2018, respectively, is included in cash and cash equivalents and approximates market values based on quoted market prices (Level 1 inputs).

Concentration of Credit Risk

Credit risk represents the risk that the Company would incur a loss if counterparties failed to perform pursuant to the terms of their agreements. Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents. Cash and cash equivalents consist of money market funds with major financial institutions in the United States. These funds may be redeemed upon demand and, therefore, bear minimal risk. The Company does not anticipate any losses on such balances.

Revenue Recognition

The Company applies Accounting Standards Codification, or ASC, Topic 606, *Revenue from Contracts with Customers* (Topic 606), to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Under Topic 606, an entity recognizes revenue when its customer obtains control of promised goods or services in an amount that reflects the consideration which the entity expects to receive in exchange for those goods and services. To determine revenue recognition for arrangements that an entity determines are within the scope of Topic 606, the entity performs the following five steps: (i) identify the contract(s) with the customer(s); (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods and services it transfers to the customer. At contract inception, the Company assesses the goods or services promised within each contract that falls under the scope of Topic 606, determines those that are performance obligations and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

The Company enters into licensing agreements which are within the scope of Topic 606, under which it licenses certain of its drug candidates' rights to third parties. The terms of these arrangements typically include payment of one or more of the following: non-refundable, up-front license fees; development, regulatory and commercial milestone payments; and royalties on net sales of the licensed product, if and when earned.

In determining the appropriate amount of revenue to be recognized as it fulfills its obligation under each of its agreements, the Company performs the five steps under Topic 606 described above. As part of the accounting for these arrangements, the Company must develop assumptions that require judgment to determine the stand-alone selling price, which may include forecasted revenues, development timelines, reimbursement of personnel costs, discount rates and probabilities of technical and regulatory success.

Licensing of Intellectual Property: If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue from non-refundable, up-front fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period, and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone Payments: At the inception of each arrangement that includes development milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal will not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which the Company recognizes revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such development milestones and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect license, collaboration and other revenues and earnings in their period of adjustment.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and for which the license is deemed to be the predominant item to which royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any royalty revenue from its license agreements.

The Company entered into a collaborative research and development agreement with Pfizer Inc. (Pfizer) in 2011. The agreement is in the form of a license agreement (the Pfizer Agreement). The Pfizer Agreement calls for a non-refundable up-front payment and milestone payments upon achieving significant milestone events. The Pfizer Agreement also contemplates royalty payments on future sales of an approved product. There are no performance, cancellation, termination or refund provisions in the Pfizer Agreement that contain material financial consequences to the Company. For a complete discussion of the Company's accounting for the Pfizer Agreement, see Note 9, "Research and License Agreements."

Accrued Liabilities

The Company is required to estimate accrued liabilities as part of the process of preparing its financial statements. The estimation of accrued liabilities involves identifying services that have been performed on the Company's behalf, and then estimating the level of service performed and the associated cost incurred for such services as of each balance sheet date. Accrued liabilities include professional service fees, such as for lawyers and accountants, contract service fees, such as those under contracts with clinical monitors, data management organizations and investigators in conjunction with clinical trials, and fees to contract manufacturers in conjunction with the production of clinical materials. Pursuant to the Company's assessment of the services that have been performed, the Company recognizes these expenses as the services are provided. Such assessments include: (i) an evaluation by the project manager of the work that has been completed during the period; (ii) measurement of progress prepared internally and/or provided by the third-party service provider; (iii) analyses of data that justify the progress; and (iv) the Company's judgment.

Research and Development Costs

Except for payments made in advance of services, research and development costs are expensed as incurred. For payments made in advance, the Company recognizes research and development expense as the services are rendered. Research and development costs primarily consist of salaries and related expenses for personnel, laboratory supplies and raw materials, sponsored research, depreciation of laboratory facilities and leasehold improvements, and utilities costs

related to research space. Other research and development expenses include fees paid to consultants and outside service providers including clinical research organizations and clinical manufacturing organizations.

Stock-Based Compensation

Stock-based payments are accounted for in accordance with the provisions of ASC 718, *Compensation—Stock Compensation*. The fair value of stock-based payments is estimated, on the date of grant, using the Black-Scholes-Merton model. The resulting fair value is recognized ratably over the requisite service period, which is generally the vesting period of the option.

The Company has elected to use the Black-Scholes-Merton option pricing model to value any options granted. The Company will reconsider use of the Black-Scholes-Merton model if additional information becomes available in the future that indicates another model would be more appropriate or if grants issued in future periods have characteristics that prevent their value from being reasonably estimated using this model.

A discussion of management’s methodology for developing some of the assumptions used in the valuation model follows:

Expected Dividend Yield—The Company has never declared or paid dividends and has no plans to do so in the foreseeable future.

Expected Volatility—Volatility is a measure of the amount by which a financial variable such as share price has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period. The Company utilizes the historical volatilities of a peer group (e.g., several public entities of similar size, complexity, and stage of development), along with the Company’s historical volatility since its initial public offering, to determine its expected volatility.

Risk-Free Interest Rate—This is the U.S. Treasury rate for the week of each option grant during the year, having a term that most closely resembles the expected life of the option.

Expected Term—This is a period of time that the options granted are expected to remain unexercised. Options granted have a maximum term of 10 years. The Company estimates the expected life of the option term to be 6.25 years. The Company uses a simplified method to calculate the average expected term.

Expected Forfeiture Rate—The Company accounts for forfeitures as they occur and does not make an estimate of expected forfeitures at the time of grant.

Net Loss Per Common Share

Basic net loss per common share is determined by dividing net loss by the weighted-average number of common shares outstanding during the period, without consideration of common stock equivalents. Diluted net loss per share is computed by dividing net loss by the weighted-average number of common stock equivalents outstanding for the period. The treasury stock method is used to determine the dilutive effect of the Company’s stock options, restricted stock units and warrants.

The following potentially dilutive securities outstanding, at March 31, have been excluded from the computation of diluted weighted average common shares outstanding, as they would be anti-dilutive:

	Three Months Ended March 31,	
	2019	2018
Warrants	—	553,868
Stock options and restricted stock units	4,836,170	3,952,792

Comprehensive Loss

Comprehensive loss comprises net loss and other changes in equity that are excluded from net loss. For the three months ended March 31, 2019 and 2018, the Company's net loss equaled comprehensive net loss and, accordingly, no additional disclosure is presented.

Recently Issued Accounting Standards

Adopted Accounting Standards

In February 2016, the Financial Accounting Standards Board (FASB) issued ASU No. 2016-02, *Leases (Topic 842)*, which generally requires all leases, including operating leases, to be recognized in the statement of financial position as right-of-use assets and lease liabilities by lessees. The provisions of ASU No. 2016-02 were applied using a modified retrospective approach and were adopted by the Company effective January 1, 2019. The Company elected the transition option provided under ASU No. 2018-11, which did not require adjustments to comparative periods or modified disclosures in those comparative periods. The Company elected the practical expedient as an accounting policy election by class of underlying asset to account for each separate lease component of a contract and its associated non-lease component as a single lease component. This practical expedient was applied to all underlying asset classes. Upon adoption of the standard, the Company recorded right-of-use assets and related lease liabilities for operating leases of approximately \$3.6 million and \$4.3 million, respectively, as of January 1, 2019. The difference between these amounts is comprised of adjustments related to unamortized balances of deferred rent, lease incentives, and prepaid rent existing as of the effective date. The adoption of the standard did not materially affect the Company's net earnings or the statement of cash flows. For further discussion on the adoption of this standard, see Note 6, "Leases."

In June 2018, the FASB issued ASU No. 2018-07, *Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-based Payment Accounting*, to simplify the accounting for share-based payments to nonemployees by aligning it with the accounting for share-based payments to employees, with certain exceptions. The Company adopted this ASU as of January 1, 2019. Upon transition, the Company measured nonemployee awards at fair value as of the adoption date. The adoption of the standard did not materially affect operating results, cash flows or financial position.

In August 2018, the U.S. Securities and Exchange Commission (SEC) adopted the final rule under SEC Release No. 33-10532, *Disclosure Update and Simplification*. This final rule amends certain disclosure requirements that are redundant, duplicative, overlapping, outdated or superseded. In addition, the amendments expand the disclosure requirements on the analysis of stockholders' equity for interim financial statements. Under the amendments, an analysis of changes in each caption of stockholders' equity presented in the balance sheet must be provided in a note or separate statement. The analysis should present a reconciliation of the beginning balance to the ending balance of each period for which a statement of comprehensive income is required to be filed. This final rule is effective for the Company for all filings made on or after November 5, 2018. The SEC staff clarified that the first presentation of the changes in shareholders' equity may be included in the first Form 10-Q for the quarter that begins after the effective date of the amendments. Effective with the adoption of the rule, the Company included a separate statement of stockholders' equity in the financial statements for the three months ended March 31, 2019 and 2018.

Accounting Standards Not Yet Adopted

In November 2018, the FASB issued ASU No. 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606*. The amendment clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue under Topic 606 when the collaborative arrangement participant is a customer in the context of a unit of account. In those situations, all the guidance in Topic 606 should be applied, including recognition, measurement, presentation and disclosure requirements. The amendment also adds unit-of-account guidance in Topic 808 to align with the guidance in Topic 606 (that is, a distinct good or service) when an entity is assessing whether the collaborative arrangement or a part of the arrangement is within the scope of Topic 606. Lastly, the amendment requires that in a transaction with a collaborative arrangement participant that is not directly related to sales to third parties, presenting the transaction together with revenue recognized under Topic 606 is precluded if the collaborative arrangement participant is not a customer. For public business entities, the amendments are effective

for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. The Company is currently evaluating these clarifications in the accounting and presentation for its collaborative arrangements within the scope of Topic 808 but does not expect it will have any impact.

With the exception of the new standards discussed above, there have been no new accounting pronouncements that have significance, or potential significance, to the Company's financial statements.

3. Prepaid Expenses and Other Current Assets

The following is a summary of the Company's prepaid expenses and other current assets:

	March 31, 2019	December 31, 2018
Prepaid research and development expenses	\$ 2,122,098	\$ 1,608,768
Other prepaid expenses	352,760	329,634
Other receivables	354,101	413,122
Prepaid expenses and other current assets	<u>\$ 2,828,959</u>	<u>\$ 2,351,524</u>

4. Property and Equipment

Property and equipment, net consists of the following:

	March 31, 2019	December 31, 2018
Furniture and fixtures	\$ 334,300	\$ 334,300
Laboratory equipment	1,392,166	1,389,036
Office equipment	11,085	11,085
Computer equipment	269,690	233,282
Leasehold improvements	609,083	573,165
Property and equipment	<u>2,616,324</u>	<u>2,540,868</u>
Less accumulated depreciation	<u>(1,654,083)</u>	<u>(1,583,642)</u>
Property and equipment, net	<u>\$ 962,241</u>	<u>\$ 957,226</u>

Depreciation expense was \$70,441 and \$68,757 for the three months ended March 31, 2019 and 2018, respectively.

5. Accrued Expenses

The following is a summary of the Company's accrued expenses:

	March 31, 2019	December 31, 2018
Accrued research and development expenses	\$ 3,967,216	\$ 3,483,741
Accrued consulting and other professional fees	457,877	140,397
Accrued employee benefits	440,136	385,789
Other accrued expenses	317,397	263,693
Accrued expenses	<u>\$ 5,182,626</u>	<u>\$ 4,273,620</u>

6. Leases

At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the circumstances present. The Company determines a lease exists if the contract conveys the right to control an identified asset for a period of time in exchange for consideration. Control is considered to exist when the lessee has the right to obtain substantially all of the economic benefits from the use of an identified asset as well as direct the right to

use of that asset. Leases with a term greater than one year are recognized on the balance sheet as right-of-use assets, lease liabilities and, if applicable, long-term lease liabilities. The Company has elected not to recognize on the balance sheet leases with terms of one year or less. If a contract is considered to be a lease, the Company recognizes a lease liability based on the present value of the future lease payments over the expected lease term, with an offsetting entry to recognize a right-of-use asset.

The interest rate implicit in lease contracts is typically not readily determinable. As such, the Company utilizes the appropriate incremental borrowing rate, which is the rate incurred to borrow on a collateralized basis over a term similar to the term of the lease for which the rate is estimated. Certain adjustments to the right-of-use asset may be required for items such as initial direct costs paid or incentives received.

The components of a lease should be split into three categories: lease components (e.g., land, building, etc.), non-lease components (e.g., common area maintenance, maintenance, consumables, etc.), and non-components (e.g., property taxes, insurance, etc.). Then the fixed and in-substance fixed contract consideration (including any related to non-components) must be allocated based on fair values to the lease components and non-lease components. Although separation of lease and non-lease components is required, certain practical expedients are available to entities. Entities electing the practical expedient would not separate lease and non-lease components. Rather, they would account for each lease component and the related non-lease component together as a single component. The Company's facilities operating leases have lease and non-lease components. The Company has elected to use the practical expedient and account for each lease component and related non-lease component as one single component. The lease component results in a right-of-use asset being recorded on the balance sheet and amortized as lease expense on a straight-line basis.

The Company leases office and research space in Rockville, Maryland under an operating lease with a term from June 15, 2015 through October 31, 2023 (as amended to date, the Lease) that is subject to annual rent increases. The Company has the right to sublease or assign all or a portion of the premises, subject to the conditions set forth in the Lease. The Lease may be terminated early by either the landlord or the Company in certain circumstances. In connection with the Lease, the Company received rent abatement as a lease incentive in the initial year of the Lease.

In March 2016, the Company amended the Lease (the Lease Amendment) to lease additional space as of June 1, 2016. In May 2016, the Company also paid a security deposit of \$52,320 to be held until the expiration or termination of the Company's obligations under the Lease. The term of the Lease Amendment for the additional space continues through October 31, 2023, the same date as for the premises originally leased under the Lease, subject to the Company's renewal option set forth in the Lease. The Company's one-time option to terminate the Lease effective as of October 31, 2020 also applies to the additional space.

The Company identified and applied the following significant assumptions in recognizing the right-of-use asset and corresponding liability for the Lease and Lease Amendment:

- **Lease term** – The lease term includes both the noncancelable period and, when applicable, cancelable option periods where failure to exercise such option would result in an economic penalty. The Company's renewal option to extend is not reasonably certain of being exercised as of March 31, 2019.
- **Incremental borrowing rate** – As the Company's lease does not provide an implicit rate, the Company used an incremental borrowing rate, or IBR, which is the rate incurred to borrow on a collateralized basis over a term similar to the term of the lease for which the rate is estimated. The Company determined the IBR based on an estimated rate that considered the Company's credit risk in the United States for a collateralized borrowing and lease term similar to the Lease.

With the adoption of ASU 2016-02 on January 1, 2019, the Company recorded a right-of use asset of \$3.6 million and corresponding lease liability of \$4.3 million by calculating the present value of lease payments, discounted at 8.01%, the Company's IBR, over the expected term of 4.8 years. As of March 31, 2019 the weighted average remaining lease term was 4.6 years. There were no additional operating leases entered into during the quarter ended March 31, 2019.

The components of lease expense and related cash flows were as follows:

	Three Months Ended March 31, 2019
Operating lease cost	\$ 231,989
Variable lease cost	91,758
Total operating lease cost	\$ 323,747

Cash paid for amounts included in the measurement of lease liabilities:

Operating cash flows from operating leases	\$ 253,387
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Maturities of lease liability due under these lease agreements as of March 31, 2019 are as follows:

	Operating Lease Obligation
April 1, 2019 - December 31, 2019	\$ 773,521
2020	1,052,581
2021	1,078,895
2022	1,105,867
2023	846,830
Thereafter	—
Total	4,857,694
Present value adjustment	(776,708)
Present value of lease payments	\$ 4,080,986

7. Stockholders' Equity

At-The-Market Sales Facility

On September 28, 2017, the Company entered into an at-the-market sales agreement (the "September 2017 Sales Agreement") with Cowen and Company, LLC to sell up to \$100.0 million of the Company's common stock registered under a shelf registration statement filed with the U.S. Securities and Exchange Commission in September 2017. As of March 31, 2019, \$80.0 million remained available to be sold under the terms of the September 2017 Sales Agreement. There were no shares sold under the September 2017 Sales Agreement during the three months ended March 31, 2019 and March 31, 2018.

2003 Stock Incentive Plan

The 2003 Stock Incentive Plan (the 2003 Plan) provided for the grant of incentives and nonqualified stock options and restricted stock awards. The exercise price for incentive stock options must be at least equal to the fair value of the common stock on the grant date. Unless otherwise stated in a stock option agreement, 25% of the shares subject to an option grant will vest upon the first anniversary of the vesting start date and thereafter at the rate of one forty-eighth of the option shares per month as of the first day of each month after the first anniversary. Upon termination of employment by reasons other than death, cause, or disability, any vested options shall terminate 60 days after the termination date. Stock options terminate 10 years from the date of grant. The 2003 Plan expired on May 21, 2013.

A summary of the Company's stock option activity under the 2003 Plan for the three months ended March 31, 2019 is as follows:

	Outstanding Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (In thousands)
Outstanding as of December 31, 2018	667,080	\$ 1.24	2.2	
Options exercised	(11,000)	1.12		
Options forfeited	—	—		
Outstanding, Vested and Exercisable as of March 31, 2019	<u>656,080</u>	1.25	1.9	\$ 7,358

As of March 31, 2019, outstanding options under the 2003 Plan were fully expensed and all shares underlying outstanding options were fully vested. Total intrinsic value of the options exercised during the three months ended March 31, 2019 and 2018 was \$129,250 and \$407,776, respectively, and total cash received for options exercised was \$12,320 and \$26,572 during the three months ended March 31, 2019 and 2018, respectively.

2013 Equity Incentive Plan

The Company's board of directors adopted, and its stockholders approved, its 2013 Equity Incentive Plan (the 2013 Plan) effective on January 9, 2014. The 2013 Plan provides for the grant of incentive stock options within the meaning of Section 422 of the Internal Revenue Code to the Company's employees and its parent and subsidiary corporations' employees, and for the grant of nonstatutory stock options, restricted stock awards, restricted stock unit awards, stock appreciation rights, performance stock awards and other forms of stock compensation to its employees, including officers, consultants and directors. The 2013 Plan also provides for the grant of performance cash awards to the Company's employees, consultants and directors. Unless otherwise stated in a stock option agreement, 25% of the shares subject to an option grant will typically vest upon the first anniversary of the vesting start date and thereafter at the rate of one forty-eighth of the option shares per month as of the first day of each month after the first anniversary. Upon termination of employment by reasons other than death, cause, or disability, any vested options will terminate 90 days after the termination date, unless otherwise set forth in a stock option agreement. Stock options generally terminate 10 years from the date of grant.

Authorized Shares

The maximum number of shares of common stock that initially could be issued under the 2013 Plan was 1,000,000 shares, plus any shares subject to stock options or similar awards granted under the 2003 Plan that expire or terminate without having been exercised in full or are forfeited or repurchased by the Company. The number of shares of common stock reserved for issuance under the 2013 Plan automatically increases on January 1 of each year until January 1, 2023, by 3% of the total number of shares of common stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares as may be determined by the Company's board of directors. The maximum number of shares that may be issued pursuant to exercise of incentive stock options under the 2013 Plan is 20,000,000 shares. As of January 1, 2019, the number of shares of common stock that may be issued under the 2013 Plan was automatically increased by 1,294,822 shares, representing 3% of the total number of shares of common stock outstanding on December 31, 2018, increasing the number of shares of common stock available for issuance under the 2013 Plan to 5,162,816 shares.

Shares issued under the 2013 Plan may be authorized but unissued or reacquired shares of common stock. Shares subject to stock awards granted under the 2013 Plan that expire or terminate without being exercised in full, or that are paid out in cash rather than in shares, will not reduce the number of shares available for issuance under the 2013 Plan. Additionally, shares issued pursuant to stock awards under the 2013 Plan that the Company repurchases or that are forfeited, as well as shares reacquired by the Company as consideration for the exercise or purchase price of a stock award or to satisfy tax withholding obligations related to a stock award, will become available for future grant under the 2013 Plan.

A summary of the Company's stock option activity under the 2013 Plan for the three months ended March 31, 2019 is as follows:

	Outstanding Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (In thousands)
Outstanding as of December 31, 2018	3,265,254	\$ 8.39	7.1	
Options granted	922,596	10.65		
Options exercised	(3,585)	5.09		
Options forfeited	(4,175)	16.24		
Outstanding as of March 31, 2019	4,180,090	10.33	7.5	\$ 14,618
Vested or expected to vest as of March 31, 2019	4,180,090	10.33	7.5	\$ 14,618
Exercisable as of March 31, 2019	2,283,631	8.60	6.2	\$ 10,545

The weighted-average fair value of the options granted during the three months ended March 31, 2019 and 2018 was \$7.00 per share and \$13.70 per share, respectively, applying the Black-Scholes-Merton option pricing model utilizing the following weighted-average assumptions:

	Three Months Ended March 31,	
	2019	2018
Expected term	6.25 years	6.25 years
Expected volatility	71.34%	73.89%
Risk-free interest rate	2.62%	2.42%
Expected dividend yield	0%	0%

As of March 31, 2019, there was \$14,142,362 of total unrecognized compensation expense related to unvested options under the 2013 Plan that will be recognized over a weighted-average period of approximately 3.1 years. Total intrinsic value of the options exercised during the three months ended March 31, 2019 and 2018 was \$23,176 and \$535,449, respectively, and total cash received for options exercised was \$18,234 and \$272,217 during the three months ended March 31, 2019 and 2018, respectively. The total fair value of shares underlying options which vested in the three months ended March 31, 2019 and 2018 was \$2,724,218 and \$1,193,174, respectively.

A restricted stock unit (RSU) is a stock award that entitles the holder to receive shares of the Company's common stock as the award vests. The fair value of each RSU is based on the closing price of the Company's common stock on the date of grant. The Company has granted RSUs with service conditions (service RSUs) that vest in three equal annual installments provided that the employee remains employed with the Company at each installment date. As of March 31, 2019, outstanding RSUs under the 2013 Plan were fully expensed and all shares were fully vested.

The following is a summary of RSU activity under the 2013 Plan for the three months ended March 31, 2019:

	Number of Shares Underlying RSUs	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2018	4,833	\$ 4.61
Granted	—	—
Forfeited	—	—
Vested	4,833	4.61
Unvested at March 31, 2019	—	—

Stock-based compensation expense was classified on the statements of operations as follows for the three months ended March 31, 2019 and 2018:

	Three Months Ended March 31,	
	2019	2018
Research and development expense	\$ 507,822	\$ 425,209
General and administrative expense	874,621	690,621
Total stock-based compensation expense	\$ 1,382,443	\$ 1,115,830

8. Income Taxes

The Company has not recorded any tax provision or benefit for the three months ended March 31, 2019 and 2018. The Company has provided a valuation allowance for the full amount of its net deferred tax assets since realization of any future benefit from deductible temporary differences, net operating loss carryforwards and research and development credits is not more-likely-than-not to be realized at March 31, 2019 and December 31, 2018.

9. Research and License Agreements

In 2011, the Company and Pfizer entered into the Pfizer Agreement that provides Pfizer an exclusive worldwide license to rivipansel for vaso-occlusive crisis associated with sickle cell disease and for other diseases for which the drug candidate may be developed. The Company was responsible for completion of the Phase 2 clinical trial, after which Pfizer assumed all further development and commercialization responsibilities. Upon execution of the Pfizer Agreement, the Company received an up-front payment of \$22.5 million. The Pfizer Agreement also provides for potential milestone payments of up to \$115.0 million upon the achievement of specified development milestones, including the dosing of the first patients in Phase 3 clinical trials for up to two indications and the first commercial sale of a licensed product in the United States and selected European countries for up to two indications; potential milestone payments of up to \$70.0 million upon the achievement of specified regulatory milestones, including the acceptance of our filings for regulatory approval by regulatory authorities in the United States and Europe for up to two indications; and potential milestone payments of up to \$135.0 million upon the achievement of specified levels of annual net sales of licensed products. Pfizer has the right to terminate the Pfizer Agreement by giving prior written notice.

The Company assessed this arrangement in accordance with Topic 606 and concluded that the contract counterparty, Pfizer, is a customer. The Company identified the following performance obligations under the contract: (1) an exclusive worldwide license to rivipansel for vaso-occlusive crisis associated with sickle cell disease and for other diseases for which the drug candidate may be developed; and (2) research and development (R&D) services to develop the rivipansel compound for commercial use related to the Phase 2 clinical trial and delivery of data to Pfizer. Based on the Company's assessment, the Company determined that the rivipansel license and R&D services are not distinct and are therefore considered as one combined performance obligation. In addition to the rivipansel license and R&D services, management also considered whether the Company's participation in a Joint Steering Committee (JSC) constituted a promise. The JSC was formed solely for communication purposes between Pfizer and the Company relating to Pfizer's progress in further developing rivipansel for commercial use. The Company's involvement in the JSC is limited to attending the JSC meetings on a semi-annual basis to receive progress updates from Pfizer; Pfizer is responsible for calling and organizing the meetings. Given the minimal level of involvement by the Company, participation in the JSC is not considered a significant aspect of the arrangement and the related costs, such as employee time, are not material. Therefore, management views the Company's participation in the JSC as administrative only and did not further evaluate its participation in the JSC in identifying the performance obligations in the Pfizer Agreement.

Under the Pfizer Agreement, in order to evaluate the appropriate transaction price, the Company determined that the up-front amount constituted the entirety of the consideration to be included in the transaction price. The transaction price of the up-front fee is equal to the \$22.5 million received. The fixed up-front consideration was recognized under ASC 606 based on when control of the combined performance obligation was transferred to the customer, which corresponded with the service period (through March 2013). None of the clinical or regulatory milestones have been included in the transaction price, as all milestone amounts were fully constrained. Event-driven milestones are a form of variable consideration as the payments are variable based on the occurrence of future events. As part of its evaluation of

the constraint, the Company considered numerous factors, including that receipt of the milestones is outside the control of the Company and is contingent upon success in future clinical trials and the licensee's efforts. Recognition of event-driven milestones should be recognized when the variable consideration is no longer constrained. Future event-driven milestones will be recognized when the constraint no longer applies. The Company received a \$15.0 million non-refundable milestone payment in May 2014 and an additional non-refundable milestone payment of \$20.0 million in June 2015. The Company did not recognize any revenue under the Pfizer Agreement during the three months ended March 31, 2019 or 2018.

Any consideration related to sales-based milestones (including royalties) will be recognized when the related sales occur as they were determined to relate predominantly to the license granted to Pfizer and therefore have also been excluded from the transaction price. The Company will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur. In evaluating the Pfizer Agreement, the Company considered that there were no significant financing components identified, no non-cash consideration was paid by Pfizer and no consideration was paid by the Company to Pfizer as part of the arrangement.

The Company has entered into a research services agreement (the Research Agreement) with the University of Basel (the University) for biological evaluation of selectin antagonists. While the scope of work under the Research Agreement with the University ended in 2017, certain patents covering the rivipansel compound are subject to provisions of the Research Agreement. Under the terms of the Research Agreement, the Company owes to the University 10% of all milestone and royalty payments received from Pfizer with respect to rivipansel. There were no milestone payments due to the University for the three months ended March 31, 2019 or 2018.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Certain statements contained in this Quarterly Report on Form 10-Q may constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. The words or phrases "would be," "will allow," "intends to," "will likely result," "are expected to," "will continue," "is anticipated," "estimate," "project," or similar expressions, or the negative of such words or phrases, are intended to identify "forward-looking statements." We have based these forward-looking statements on our current expectations and projections about future events. Because such statements include risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. Factors that could cause or contribute to these differences include those below and elsewhere in this Quarterly Report on Form 10-Q, our Annual Report on Form 10-K, particularly in Part I – Item 1A, "Risk Factors," and our other filings with the Securities and Exchange Commission. Statements made herein are as of the date of the filing of this Form 10-Q with the Securities and Exchange Commission and should not be relied upon as of any subsequent date. Unless otherwise required by applicable law, we do not undertake, and we specifically disclaim, any obligation to update any forward-looking statements to reflect occurrences, developments, unanticipated events or circumstances after the date of such statement.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited financial statements and related notes that appear in Item 1 of this Quarterly Report on Form 10-Q and with our audited financial statements and related notes for the year ended December 31, 2018, which are included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 6, 2019.

Overview

We are a clinical-stage biotechnology company focused on the discovery and development of novel glycomimetic drugs to address unmet medical needs resulting from diseases in which carbohydrate biology plays a key role. Glycomimetics are molecules that mimic the structure of carbohydrates involved in important biological processes. Our proprietary glycomimetics platform is based on our expertise in carbohydrate chemistry and our understanding of the role carbohydrates play in key biological processes. Using this expertise and understanding, we are developing a pipeline of proprietary glycomimetics designed to inhibit disease-related functions of carbohydrates, such as the roles they play in inflammation, cancer and infection. We believe this represents an innovative approach to drug discovery to treat a wide range of diseases.

Most human proteins are modified by the addition of complex carbohydrates to the surface of the proteins. The addition of these carbohydrate structures affects the functions of these proteins and their interactions with other molecules. Our initial research and development efforts have focused on drug candidates targeting selectins, which are proteins that serve as adhesion molecules and bind to carbohydrates that are involved in the inflammatory component and progression of a wide range of diseases, including hematologic disorders, cancer and cardiovascular disease. Inhibiting specific carbohydrates from binding to selectins has long been viewed as a potentially attractive approach for therapeutic intervention. The ability to successfully develop drug-like compounds that inhibit binding with selectins, known as selectin antagonists, has historically been limited by the complexities of carbohydrate chemistry. We believe our expertise in carbohydrate chemistry enables us to design selectin antagonists and other glycomimetics that inhibit the disease-related functions of certain carbohydrates in order to develop novel drug candidates to address orphan diseases with high unmet medical needs.

We are focusing our initial efforts on drug candidates for rare diseases that we believe will qualify for orphan drug designation. Our first drug candidate, rivipansel, is a pan-selectin antagonist being developed for the treatment of vaso-occlusive crisis, a debilitating and painful condition that occurs periodically throughout the life of a person with sickle cell disease. We have entered into an agreement with Pfizer Inc., or Pfizer, for the further development and potential commercialization of rivipansel worldwide. Rivipansel has received fast track designation from the U.S. Food and Drug Administration, or FDA, as well as orphan drug designation from the FDA in the United States and from the European Medicines Agency, or EMA, in the European Union. Since the completion of our Phase 2 clinical trial of rivipansel in 2013, Pfizer has been responsible for the further clinical development, regulatory approval and potential commercialization of rivipansel. Pfizer enrolled the first patient in a Phase 3 clinical trial in June 2015, and we have been

notified by Pfizer that enrollment is near completion and Pfizer expects to have top-line data from the trial later in 2019. We believe the clinical progress of rivipansel provides evidence of the significant potential of our lead program and our proprietary glycomimetics platform.

Building on our experience with rivipansel, we are developing a pipeline of other glycomimetic drug candidates. Our second glycomimetic drug candidate, uproleselan, is a specific E-selectin inhibitor, which we are developing to be used in combination with chemotherapy to treat patients with acute myeloid leukemia, or AML, a life-threatening hematologic cancer, and potentially other hematologic cancers as well. We have completed an initial Phase 1 trial in healthy volunteers for uproleselan, and in May 2017 we completed enrollment in a Phase 1/2 clinical trial in defined populations of patients with AML. In December 2018, at the annual meeting of the American Society of Hematology, or ASH, we presented clinical data from this Phase 1/2 clinical trial that showed high remission rates and suggested a favorable safety, pharmacokinetic, or PK, and biomarker profile for uproleselan.

In March 2018, we announced our design for a randomized, double-blind, placebo-controlled Phase 3 clinical trial to evaluate uproleselan in individuals with relapsed/refractory AML, which design is aligned with guidance received from the FDA. Based on consultations with the FDA, the single pivotal trial is planned to enroll approximately 380 adult patients with relapsed or refractory AML at centers in the United States, Canada, Europe and Australia. Enrollment began in the fourth quarter of 2018. The primary efficacy endpoint will be overall survival; importantly, the FDA has advised us that data on overall survival will not need to be censored for transplant in the primary efficacy analysis, meaning that patients who proceed to transplant will continue to be included as part of the survival analysis. All patients will be treated with standard chemotherapy of either MEC (mitoxantrone, etoposide and cytarabine) or FAI (fludarabine, cytarabine and idarubicin), with approximately one-half of the patients randomized to receive uproleselan in addition to chemotherapy. Patients receiving uproleselan will be dosed for one day prior to initiation of chemotherapy, twice a day through the chemotherapy regimen, and then for two days after the end of chemotherapy, which was the same regimen as in the Phase 1/2 trial. The dose regimen will be fixed, rather than weight-based, which we believe will simplify administration. We plan to offer up to three cycles of consolidation therapy in both arms of the trial for patients who achieve remission. We believe that multiple cycles of treatment in patients who respond may drive an even deeper response in patients treated with uproleselan. If this is the case, it could lengthen the duration of remission with potential for additional benefit on survival. Key secondary endpoints of the Phase 3 trial will include the incidence of severe mucositis and remission rate, which will be assessed in a hierarchical fashion which may provide supportive data. We expect to have top-line results from this trial by the end of 2020.

Uproleselan received orphan drug designation from the FDA in May 2015 for the treatment of patients with AML. In June 2016, uproleselan received fast track designation from the FDA for the treatment of adult patients with relapsed or refractory AML and elderly patients aged 60 years or older with AML. In May 2017, uproleselan received Breakthrough Therapy designation from the FDA for the treatment of adult patients with relapsed or refractory AML. In May 2017, the European Commission, based on a favorable recommendation from the EMA Committee for Orphan Medicinal Products, granted orphan designation for uproleselan for the treatment of patients with AML. We recently received a response from the EMA to our request for scientific advice with respect to our Marketing Authorization Application, or MAA development plan. Based on this guidance, we intend to conduct a Phase 3 clinical trial in Europe and pursue regulatory approval of uproleselan for treatment of AML.

In May 2018, we signed a Cooperative Research and Development Agreement, or CRADA, with the National Cancer Institute, or NCI, part of the National Institutes of Health. Under the terms of the CRADA, we will collaborate with both the NCI and the Alliance for Clinical Trials in Oncology to conduct a Phase 2/3 randomized, controlled clinical trial testing the addition of uproleselan to a standard cytarabine/daunorubicin chemotherapy regimen (7&3) in older adults with previously untreated AML who are suitable for intensive chemotherapy. The primary endpoint will be overall survival, which is defined as the time from the date of randomization to death from any cause, with a planned interim analysis based on event-free survival after the first 250 patients have been enrolled in the trial. The full trial is expected to enroll approximately 670 patients. Under the terms of the CRADA, the NCI may also fund additional research, including clinical trials involving pediatric patients with AML as well as preclinical experiments and clinical trials evaluating alternative chemotherapy regimens. We will supply uproleselan as well as provide financial support to augment data analysis and monitoring for the Phase 3 program. The trial opened for enrollment in early 2019 and enrolled the first patient in April 2019.

In February 2018, we entered into an agreement with the Haemato Oncology Foundation for Adults in the Netherlands, or HOVON, to initiate and conduct a Phase 2 clinical trial to evaluate uproleselan in adults with newly diagnosed AML but who cannot tolerate intensive chemotherapy, as well as in patients with myelodysplastic syndrome, or MDS, and a high risk of leukemia. The HOVON trial will be the first to evaluate uproleselan, together with decitabine, in this underserved population of AML and MDS patients; these two populations represent a significant potential indication expansion opportunity for uproleselan. HOVON intends to enroll approximately 140 patients in the clinical trial, including a control arm. Patients will be evaluated after three cycles of therapy, and key efficacy endpoints will include remission rate, disease-free survival and overall survival. The trial is anticipated to be conducted in five countries across Europe.

We are also developing an additional drug candidate, GMI-1359, that simultaneously targets both E-selectin and a chemokine receptor known as CXCR4. Since E-selectin and CXCR4 are implicated in the retention of cancer cells in the bone marrow, we believe that targeting both E-selectin and CXCR4 with a single compound could improve efficacy in the treatment of solid tumors that often metastasize to bone, such as breast and prostate cancer, as compared to targeting CXCR4 alone. We recently completed a Phase 1 single-dose escalation trial of GMI-1359 in healthy volunteers. In this trial, volunteer participants received a single injection of GMI-1359, after which they were evaluated for safety, tolerability and PK. This randomized, double-blind, placebo-controlled, dose-escalation trial was conducted at a single site in the United States. GMI-1359 was generally well tolerated in this trial, with no subjects experiencing serious adverse events. We anticipate initiating a Phase 1b trial of GMI-1359 in breast cancer patients whose tumors have spread to bone in the second half of 2019. The trial will be conducted at Duke University and will evaluate dose escalation as well as safety and pharmacodynamic markers in these patients.

In addition to our programs described above, we are also advancing other preclinical-stage programs. These programs include small-molecule glycomimetic compounds that inhibit the protein galectin-3, which we believe may have potential to be used for the treatment of fibrosis, cancer and cardiovascular disease.

We commenced operations in 2003, and our operations to date have been limited to organizing and staffing our company, business planning, raising capital, developing our glycomimetics platform, identifying potential drug candidates, undertaking preclinical studies and conducting, both alone and in collaboration with third parties, clinical trials of rivipansel, uproleselan and GMI-1359. To date, we have financed our operations primarily through private placements of our securities, up-front and milestone payments under our collaboration with Pfizer, the net proceeds from our IPO in January 2014 and additional public offerings of common stock in 2016, 2017 and 2018, as well as proceeds from sales of common stock under at-the-market sales facilities with Cowen and Company LLC, or Cowen. We have no approved drugs currently available for sale, and substantially all of our revenue to date has been revenue from the up-front and milestone payments from Pfizer, although we have received nominal amounts of revenue under research grants.

Prior to our IPO, we raised an aggregate of \$86.6 million to fund our operations, of which \$22.5 million was an up-front payment under our collaboration with Pfizer and \$64.1 million was from the sale of our convertible promissory notes and convertible preferred stock. The IPO provided us with net proceeds of \$57.2 million, and we received a non-refundable milestone payment from Pfizer in May 2014 of \$15.0 million. In August 2015, we received another non-refundable milestone payment from Pfizer of \$20.0 million following the dosing of the first patient in the Phase 3 clinical trial of rivipansel. We received an additional \$19.7 million in net proceeds from our public offering in June 2016, \$86.8 million in net proceeds from our public offering in May 2017 and \$128.4 million in net proceeds from our public offering in March 2018. During the years ended December 31, 2016 and 2017, we received an aggregate of \$30.5 million of net proceeds from sales of our common stock pursuant to our at-the-market sales agreements with Cowen. There were no securities sold during the year ended December 31, 2018 or the three months ended March 31, 2019 under our at-the-market sales agreement with Cowen.

Since inception, we have incurred significant operating losses. We have generated cumulative revenue of \$58.6 million since our inception through March 31, 2019 primarily consisting of the \$22.5 million up-front payment from Pfizer in 2011, the \$15.0 million non-refundable milestone payment in May 2014 and the \$20.0 million non-refundable milestone payment in August 2015. We had an accumulated deficit of \$214.6 million as of March 31, 2019, and we expect to continue to incur significant expenses and operating losses over at least the next several years. Our net losses may fluctuate significantly from quarter to quarter and year to year, depending on the timing of our clinical trials, the

receipt of milestone payments, if any, under our collaboration with Pfizer, and our expenditures on other research and development activities. We anticipate that our expenses will increase substantially as we:

- initiate and conduct our planned clinical trials of uproleselan and GMI-1359, including fulfilling our funding and supply commitments related to clinical trials of uproleselan being conducted by or in collaboration with third parties;
- manufacture additional uproleselan drug supplies for validation, new drug application and commercial batches;
- continue the research and development of our pre-clinical drug candidates;
- seek to discover and develop additional drug candidates;
- seek regulatory approvals for any drug candidates other than rivipansel that successfully complete clinical trials;
- ultimately establish a sales, marketing and distribution infrastructure and scale up external manufacturing capabilities to commercialize any drug candidates other than rivipansel for which we may obtain regulatory approval;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, quality control and scientific personnel; and
- add operational, financial and management information systems and personnel, including personnel to support our drug development and potential future commercialization efforts.

To fund further operations, we will need to raise capital. We may obtain additional financing in the future through the issuance of our common stock, through other equity or debt financings or through collaborations or partnerships with other companies. We may not be able to raise additional capital on terms acceptable to us, or at all, and any failure to raise capital as and when needed could compromise our ability to execute on our business plan. Although it is difficult to predict future liquidity requirements, we believe that our existing cash and cash equivalents, together with interest thereon, will be sufficient to fund our operations at least through our receipt of preliminary results from our Phase 3 clinical trial of uproleselan in individuals with relapsed/refractory AML, which we currently expect to occur by the end of 2020. However, our ability to successfully transition to profitability will be dependent upon achieving a level of revenues adequate to support our cost structure. We cannot assure you that we will ever be profitable or generate positive cash flow from operating activities.

Our Collaboration with Pfizer

In October 2011, we entered into the license agreement with Pfizer under which we granted Pfizer an exclusive worldwide license to develop and commercialize products containing rivipansel for all fields and uses. The license also covers specified back-up compounds along with modifications of and improvements to rivipansel that meet defined chemical properties. Pfizer is required to use commercially reasonable efforts, at its expense, to develop, obtain regulatory approval for and commercialize rivipansel for sickle cell disease in the United States. Under the terms of the agreement, we received a \$22.5 million up-front payment. We are also eligible to earn potential milestone payments of up to \$115.0 million upon the achievement of specified development milestones, including the dosing of the first patients in Phase 3 clinical trials for up to two indications and the first commercial sale of a licensed product in the United States and selected European countries for up to two indications, up to \$70.0 million upon the achievement of specified regulatory milestones, including the acceptance of our filings for regulatory approval by regulatory authorities in the United States and Europe for up to two indications, and up to \$135.0 million upon the achievement of specified levels of annual net sales of licensed products. We are also eligible to receive tiered royalties for each licensed product, with percentages ranging from the low double digits to the low teens, based on net sales worldwide, subject to reductions in specified circumstances.

The first potential milestone payment under the Pfizer agreement was \$35.0 million upon the initiation of dosing of the first patient in a Phase 3 clinical trial of rivipansel by Pfizer. Based on certain terms of the agreement, Pfizer made a \$15.0 million non-refundable partial milestone payment to us in May 2014, which we recognized as revenue in May

2014, when earned, and the dosing of the first patient in the Phase 3 clinical trial in June 2015 triggered the remaining \$20.0 million milestone payment to us. We recorded the \$20.0 million milestone payment as revenue in June 2015. There were no milestone payments received or recorded as revenue from Pfizer for the three months ended March 31, 2019 or 2018.

We entered into a research services agreement with the University of Basel, or the University, for biological evaluation of selectin antagonists. While the scope of work under the research agreement with the University ended in 2017, certain patents covering the rivipansel compound are subject to provisions of the Research Agreement. Under the terms of the Research Agreement, we owe the University 10% of all milestone and royalty payments received from Pfizer with respect to rivipansel. There were no payments due to the University for the three months ended March 31, 2019 or 2018.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to our revenue recognition, accrued research and development expenses, stock-based compensation expense and income taxes. We base our estimates on historical experience, known trends and events and various other factors that we believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other resources. Actual results may differ from these estimates and judgments under different assumptions or conditions. We periodically review our estimates in light of changes in circumstances, facts and experience. The effects of material revisions in estimates are reflected in our financial statements prospectively from the date of the change in estimate.

We define our critical accounting policies as those accounting principles generally accepted in the United States that require us to make subjective estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations, as well as the specific manner in which we apply those principles. For a description of our critical accounting policies, please see the disclosures in Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2018. There have not been any material changes to our critical accounting policies since December 31, 2018.

Components of Operating Results

Revenue

To date, we have not generated any revenue from the sale of our drug candidates and do not expect to generate any revenue from the sale of drugs in the near future. Substantially all of our revenue recognized to date has consisted of the up-front and milestone payments under our agreement with Pfizer.

Since our inception, we have also recognized a nominal amount of revenue under research grant contracts, generally to the extent of our costs incurred in connection with specific research or development activities.

Research and Development

Research and development expenses consist of expenses incurred in performing research and development activities, including compensation and benefits for full-time research and development employees, facilities expenses, overhead expenses, cost of laboratory supplies, clinical trial and related clinical manufacturing expenses, fees paid to contract research organizations and other consultants and other outside expenses. Other preclinical research and platform programs include activities related to exploratory efforts, target validation, lead optimization for our preclinical programs and our proprietary glycomimetics platform.

To date, our research and development expenses have related primarily to the development of rivipansel, uproleselan and our other drug candidates. In April 2013, when we completed our Phase 2 clinical trial of rivipansel, all further clinical development obligations associated with rivipansel shifted to Pfizer.

We do not currently utilize a formal time allocation system to capture expenses on a project-by-project basis because we are organized and record expense by functional department and our employees may allocate time to more than one development project. Accordingly, we only allocate a portion of our research and development expenses by functional area and by drug candidate.

Research and development costs are expensed as incurred. Non-refundable advance payments for goods or services to be received in the future for use in research and development activities are deferred and capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

Research and development activities are central to our business model. Drug candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later stage clinical trials. We expect our research and development expenses to increase over the next several years as we seek to progress uproleselan, GMI-1359 and our other drug candidates through clinical development. For example, as we prepare to potentially submit an application for marketing approval for uproleselan, we will incur substantial expenses in scaling up the production and manufacturing of uproleselan. However, it is difficult to determine with certainty the duration and completion costs of our current or future preclinical studies and clinical trials of our drug candidates, or if, when or to what extent we will generate revenues from the commercialization and sale of any of our drug candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our drug candidates.

The duration, costs and timing of clinical trials and development of our drug candidates will depend on a variety of factors that include:

- per patient trial costs;
- the number of patients that participate in the trials;
- the number of sites included in the trials;
- the countries in which the trial is conducted;
- the length of time required to enroll eligible patients;
- the number of doses that patients receive;
- the drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies;
- the duration of patient follow-up; and
- the safety and efficacy profile of the drug candidate.

In addition, the probability of success for each drug candidate will depend on numerous factors, including competition, manufacturing capability and commercial viability. We will determine which programs to pursue and how much to fund each program in response to the scientific and clinical success of each drug candidate, as well as an assessment of each drug candidate's commercial potential.

General and Administrative

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in executive, finance, accounting, business development and human resources functions. Other significant costs include facility costs not otherwise included in research and development expenses, legal fees relating to patent and corporate matters and fees for accounting and consulting services. We anticipate that our general and administrative expenses will increase in the future to support our continued research and development activities.

Interest Income

Interest income consists of interest earned on our cash and cash equivalents.

Results of Operations for the Three Months Ended March 31, 2019 and 2018

The following table sets forth our results of operations for the three months ended March 31, 2019 and 2018:

(in thousands)	Three Months Ended March 31,		Period-to-Period Change
	2019	2018	
Revenue	\$ —	\$ —	\$ —
Costs and expenses:			
Research and development expense	11,773	9,022	2,751
General and administrative expense	3,360	2,855	505
Total costs and expenses	15,133	11,877	3,256
Loss from operations	(15,133)	(11,877)	(3,256)
Interest income	1,049	364	685
Net loss and comprehensive loss	\$ (14,084)	\$ (11,513)	\$ (2,571)

Research and Development Expense

The following table summarizes our research and development expense by functional area for the three months ended March 31, 2019 and 2018:

(in thousands)	Three Months Ended March 31,		Period-to-Period Change
	2019	2018	
Clinical development	\$ 2,607	\$ 858	\$ 1,749
Manufacturing and formulation	5,244	4,889	355
Contract research services, consulting and other costs	594	501	93
Laboratory costs	502	490	12
Personnel-related	2,318	1,859	459
Stock-based compensation	508	425	83
Research and development expense	\$ 11,773	\$ 9,022	\$ 2,751

During the three months ended March 31, 2019, our research and development expense increased by \$2.8 million, or 30%, compared to the same period in 2018. This increase was primarily the result of the higher clinical expenses related to the start-up and enrollment of patients in the Phase 3 clinical trial of uproleselan in the quarter ended March 31, 2019 compared to the quarter ended March 31, 2018. Personnel-related and stock-based compensation expenses increased due an increase in our research and development headcount compared to the same period in 2018, as well as annual salary adjustments and stock option awards granted in the first quarter of 2019.

The following table summarizes our research and development expense by drug candidate for the three months ended March 31, 2019 and 2018:

(in thousands)	Three Months Ended March 31,		Period-to-Period Change
	2019	2018	
Uproleselan	\$ 7,874	\$ 6,024	\$ 1,850
GMI-1359	166	5	161
Other research and development	907	709	198
Personnel-related and stock-based compensation	2,826	2,284	542
Research and development expense	<u>\$ 11,773</u>	<u>\$ 9,022</u>	<u>\$ 2,751</u>

General and Administrative Expense

The following table summarizes the components of our general and administrative expense for the three months ended March 31, 2019 and 2018:

(in thousands)	Three Months Ended March 31,		Period-to-Period Change
	2019	2018	
Personnel-related	\$ 1,134	\$ 955	\$ 179
Stock-based compensation	875	691	184
Legal, consulting and other professional expenses	1,135	1,029	106
Other	216	180	36
General and administrative expense	<u>\$ 3,360</u>	<u>\$ 2,855</u>	<u>\$ 505</u>

During the three months ended March 31, 2019, our general and administrative expense increased by \$505,000, or 18%, compared to the same period in 2018. Personnel-related and stock-based compensation expenses increased due an increase in general and administrative headcount compared to the same period in 2018, as well as annual salary adjustments and stock option awards granted in the first quarter of 2019.

Interest Income

Interest income increased by \$685,000 to \$1.0 million for the three months ended March 31, 2019 from \$364,000 for the three months ended March 31, 2018 due to higher average cash balances following our public offering of common stock in March 2018.

Liquidity and Capital Resources

Sources of Liquidity

We have financed our operations primarily through public offerings and private placements of our capital stock, as well as up-front and milestone payments from Pfizer. As of March 31, 2019, we had \$195.6 million in cash and cash equivalents.

We are potentially eligible to earn a significant amount of milestone payments and royalties under our agreement with Pfizer. Our ability to earn these payments and their timing is dependent upon the outcome of Pfizer's activities including the results of the ongoing Phase 3 clinical trial and is uncertain at this time.

In September 2017, we entered into an at-the-market sales agreement under which we may offer and sell, from time to time at our sole discretion, shares of our common stock having an aggregate offering price of up to \$100.0 million through Cowen as our sales agent. As of the date of this report, we have sold an aggregate of 1,600,000 shares of our common stock under this agreement for net proceeds of \$19.3 million. There were no sales under the at-the-market sales agreement for the three months ended March 31, 2019 or 2018.

Funding Requirements

Our primary uses of capital are, and we expect will continue to be, compensation and related expenses, third-party clinical research and development services, laboratory and related supplies, clinical and manufacturing costs, legal and other regulatory expenses and general overhead costs.

The successful development of any of our drug candidates is highly uncertain. As such, at this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the remainder of the development of uproleselan or our other drug candidates. We are also unable to predict when, if ever, material net cash inflows will commence from rivipansel or uproleselan. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- successful enrollment in, and completion of, clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for drug candidates;
- launching commercial sales of drugs, if and when approved, whether alone or in collaboration with others; and
- obtaining and maintaining healthcare coverage and adequate reimbursement.

A change in the outcome of any of these variables with respect to the development of any of our drug candidates would significantly change the costs and timing associated with the development of that drug candidate. Because our drug candidates are in various stages of clinical and preclinical development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of our drug candidates or whether, or when, we may achieve profitability. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity or debt financings and collaboration arrangements, including our existing collaboration with Pfizer. Except for Pfizer's obligation to make potential future milestone and royalty payments under our agreement with them, we do not have any committed external source of liquidity.

To the extent that we raise additional capital through the future sale of equity or debt, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our existing common stockholders. If we raise additional funds through the issuance of convertible debt securities, these securities could contain covenants that would restrict our operations.

We may require additional capital beyond our currently anticipated amounts. Additional capital may not be available on reasonable terms, or at all. If we raise additional funds through collaboration arrangements in the future, we may have to relinquish valuable rights to our drug candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our drug development or future commercialization efforts or grant rights to develop and market drug candidates that we would otherwise prefer to develop and market ourselves.

Outlook

Based on our research and development plans and our timing expectations related to the progress of our programs, we expect that our existing cash and cash equivalents will enable us to fund our operations at least through our receipt of preliminary results from our Phase 3 clinical trial of uproleselan in individuals with relapsed/refractory AML, which we currently expect to occur by the end of 2020. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we expect. Additionally, the process of testing drug candidates in clinical trials is costly, and the timing of progress in these trials is uncertain.

Cash Flows

The following is a summary of our cash flows for the three months ended March 31, 2019 and 2018:

(in thousands)	Three Months Ended March 31,	
	2019	2018
Net cash provided by (used in):		
Operating activities	\$ (14,348)	\$ (10,209)
Investing activities	(40)	(17)
Financing activities	31	128,933
Net change in cash and cash equivalents	<u>\$ (14,357)</u>	<u>\$ 118,707</u>

Operating Activities

Net cash used in operating activities for the three months ended March 31, 2019 and 2018 was primarily the result of ongoing costs associated with our uproleselan clinical development programs, which for 2019 also included significant manufacturing costs and costs associated with the enrollment of patients in our Phase 3 clinical trial.

Investing Activities

Net cash used in investing activities for the three months ended March 31, 2019 and 2018 was for computer and laboratory equipment.

Financing Activities

Net cash provided by financing activities for the three months ended March 31, 2019 consisted of proceeds from stock option exercises. Net cash provided by financing activities during the three months ended March 31, 2018 consisted of the net proceeds of \$128.6 million from our public offering in March 2018 and \$300,000 in proceeds from stock option and warrant exercises.

Off-Balance Sheet Arrangements

During the three months ended March 31, 2019, we did not have, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules.

JOBS Act

In April 2012, the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted. Section 107(b) of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period, and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates. As of March 31, 2019 and December 31, 2018, we had cash and cash equivalents of \$195.6 million and \$209.9 million, respectively. We generally hold our cash in interest-bearing money market accounts. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Due to the short-term maturities of our cash equivalents and the low risk profile of our investments, an immediate 100 basis point change in interest rates would not have a material effect on the fair market value of our cash equivalents.

Item 4. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, refers to controls and procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Security and Exchange Commission’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that such information is accumulated and communicated to a company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

In designing and evaluating our disclosure controls and procedures, management recognizes that disclosure controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the disclosure controls and procedures are met. Additionally, in designing disclosure controls and procedures, our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible disclosure controls and procedures. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a control system, misstatements due to error or fraud may occur and not be detected.

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2019, the end of the period covered by this Quarterly Report on Form 10-Q. Based upon such evaluation, our Chief Executive Officer and our Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of such date at the reasonable assurance level.

(b) Changes in Internal Controls Over Financial Reporting

There have not been any changes in our internal controls over financial reporting during our fiscal quarter ended March 31, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we are subject to litigation and claims arising in the ordinary course of business. We are not currently a party to any material legal proceedings and we are not aware of any pending or threatened legal proceeding against us that we believe could have a material adverse effect on our business, operating results, cash flows or financial condition.

Item 1A. Risk Factors

Our business is subject to risks and events that, if they occur, could adversely affect our financial condition and results of operations and the trading price of our securities. Our risk factors as of the date of this quarterly report on Form 10-Q have not changed materially from those described in “Part I, Item 1A. Risk Factors” of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, filed with the Securities and Exchange Commission on March 6, 2019.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 6. Exhibits

Exhibit No.	Document
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-36177), filed with the Commission on January 15, 2014).
3.2	Amended and Restated Bylaws of the Registrant (incorporated herein by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-36177), filed with the Commission on January 15, 2014).
4.1	Specimen stock certificate evidencing shares of Common Stock (incorporated herein by reference to Exhibit 4.2 to Amendment No. 2 to the Registrant's Registration Statement on Form S-1 (File No. 333-191567), filed with the Commission on October 31, 2013).
10.1*	Amended and Restated Executive Employment Agreement, effective as of March 1, 2019, by and between the Registrant and Armand Girard.
31.1*	Certification of Principal Executive Officer under Section 302 of the Sarbanes-Oxley Act.
31.2*	Certification of Principal Financial Officer under Section 302 of the Sarbanes-Oxley Act.
32.1**	Certifications of Principal Executive Officer and Principal Financial Officer under Section 906 of the Sarbanes-Oxley Act.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

** These certifications are being furnished solely to accompany this quarterly report pursuant to 18 U.S.C. Section 1350, and are not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and are not to be incorporated by reference into any filing of the registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

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 thereunto duly authorized.

GLYCOMIMETICS, INC.

Date: May 2, 2019

By: /s/ Brian M. Hahn

Brian M. Hahn

Chief Financial Officer

(On behalf of the Registrant and as Principal Financial Officer)

**AMENDED AND RESTATED
EXECUTIVE EMPLOYMENT AGREEMENT**

This **AMENDED AND RESTATED EXECUTIVE EMPLOYMENT AGREEMENT** (the "**Agreement**") is entered into effective **March 1, 2019** (the "**Effective Date**"), by and between Armand Girard ("**Executive**") and GlycoMimetics, Inc. (the "**Company**").

WHEREAS, the Company desires to continue to employ Executive to provide personal services to the Company, and Executive wishes to continue to be employed by the Company and provide personal services to the Company in return for certain compensation and benefits; and

WHEREAS, this Agreement amends, restates and supersedes in its entirety Executive's Executive Employment Agreement dated **March 11, 2016** (the "**Prior Agreement**").

Accordingly, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 Term. The term of employment hereunder will be for the four year period commencing on the Effective Date and ending on the fourth anniversary of the Effective Date, subject to termination prior thereto pursuant to Sections 5, 6, 7, 8 or 9 below. Unless the Company gives notice of its intent not to renew Executive's employment hereunder, or Executive gives written notice to the Company of his determination not to renew his service and employment hereunder, in any case at least sixty (60) days prior to the fourth anniversary of the Effective Date, this Agreement, and Executive's employment by the Company hereunder, shall be renewed for one year from that anniversary. Thereafter, unless the Company or Executive gives written notice of determination not to renew at least sixty (60) days prior to the next succeeding anniversary of the Effective Date, this Agreement shall be renewed for one year from that anniversary. The term "**Service Period**" shall mean the four year period provided for in this Section 1.1 and any extension thereof, or any shorter period resulting from any termination of service under Sections 5, 6, 7, 8 or 9 hereof.

1.2 Position. Executive will be assigned initially to the position of Senior Vice President, Strategy and Corporate Development for the Company. During the term of Executive's employment with the Company, Executive will devote his best efforts and substantially all of his business time and attention to the business of the Company.

1.3 Duties. Executive will report to the Chief Executive Officer or such other Company executive designated by the Chief Executive Officer, performing such duties as are normally associated with his then current position and such duties as are assigned to him from time to time, subject to the oversight and direction of the Chief Executive Officer or his/her designee. Executive shall perform his duties under this Agreement principally out of the Company's Rockville, Maryland location, or such other location as assigned. In addition, Executive shall make such business trips to such places as may be necessary or advisable for the efficient operations of the Company.

1.4 **Company Policies and Benefits.** The employment relationship between the parties shall also be subject to the Company's personnel policies and procedures as they may be interpreted, adopted, revised or deleted from time to time in the Company's sole discretion. Executive will be eligible to participate on the same basis as similarly situated employees in the Company's benefit plans in effect from time to time during his employment. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

1.5 **Time to be Devoted to Service.** Except for reasonable vacations, absences due to temporary illness, and activities that may be mutually agreed to by the parties, Executive shall devote his entire time, attention and energies during normal business hours and such evenings and weekends as may be reasonably required for the discharge of his duties to the business of the Company during the Service Period. During the Service Period, Executive will not be engaged in any other business activity, which, in the reasonable judgment of the Chairman of the Board of the Company, conflicts with the duties of Executive hereunder, whether or not such activity is pursued for gain, profit or other pecuniary advantage. The Company further acknowledges and agrees that, subject to the prior written approval by a majority of the Board of Directors (which majority shall exclude Executive if Executive is a then current member of the Board of Directors) and consistent with the terms of the Employee Proprietary Information Agreement (as defined in Section 3 below), Executive may serve on the boards of directors and advisory boards of other companies provided that such service does not interfere with the performance of Executive's duties hereunder.

2. **COMPENSATION.**

2.1 **Base Salary.** Executive shall receive for Executive's services to be rendered hereunder an initial annualized base salary of \$335,000, subject to review and adjustment from time to time by the Company in its sole discretion and payable subject to standard federal and state payroll withholding requirements in accordance with Company's standard payroll practices ("***Base Salary***").

2.2 **Bonus.** Beginning in 2019, Executive shall be eligible to be awarded an annual cash bonus pursuant to the Company's annual performance bonus plan ("***Bonus***"), with the initial target amount of such bonus equal to 35% of Executive's Base Salary during the then current bonus year ("***Target Bonus***"), subject to review and adjustment from time to time by the Company in its sole discretion, payable subject to standard federal and state payroll withholding requirements. Whether or not Executive is awarded any Bonus will be dependent upon (a) the actual achievement by Executive and the Company of the applicable individual and corporate performance goals, as determined by the Board's Compensation Committee in its sole discretion, and (b) Executive's continuous performance of services to the Company through the date any Bonus is paid. The Bonus may be greater or lesser than the Target Bonus and may be zero. The annual period over which performance is measured for purposes of this bonus is January 1 through December 31. Any Bonus awarded pursuant to this Section 2.2 will be paid on or before March 15 of the year following the year for which it is awarded.

2.3 **Expense Reimbursement.** The Company will reimburse Executive for reasonable business expenses in accordance with the Company's standard expense reimbursement policy. For the avoidance of doubt, to the extent that any reimbursements payable to Executive are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended (the "**Code**"): (a) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (b) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (c) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

3. **PROPRIETARY INFORMATION, INVENTIONS, NON-COMPETITION AND NON-SOLICITATION OBLIGATIONS.** The parties hereto have entered into an Employee Proprietary Information, Inventions, Non-Competition and Non-Solicitation Agreement attached hereto as Exhibit A (the "**Employee Proprietary Information Agreement**"), which may be amended by the parties from time to time without regard to this Agreement. The Employee Proprietary Information Agreement contains provisions that are intended by the parties to survive and do survive termination or expiration of this Agreement.

4. **NO CONFLICT WITH EXISTING OBLIGATIONS.** Executive represents that Executive's performance of all the terms of this Agreement and as an Executive of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with other employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

5. **TERMINATION DUE TO DEATH OR DISABILITY.**

5.1 **Death or Disability.** If Executive dies while employed pursuant to this Agreement, then all obligations of the parties hereunder shall terminate immediately. If Executive is unable due to a physical or mental condition to perform the essential functions of his/her position with or without reasonable accommodation for ninety (90) consecutive days or for one-hundred and eighty (180) days in the aggregate during any twelve (12) month period or based on the written certification by two licensed physicians of the likely continuation of such condition for either such period (such condition being herein referred to as "**Disability**"), the Company, at its option, may terminate Executive's employment under this Agreement immediately upon giving his notice to that effect. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. Termination pursuant to this Section 5 is hereinafter referred to as a "**Death or Disability Termination**".

5.2 **Substitution.** The Board of Directors may designate another employee to act in Executive's place during any period of Executive's Disability during the Service Period. Notwithstanding any such designation, Executive shall continue to receive Executive's Base Salary and benefits in accordance with Sections 1.4 and 2 of this Agreement until Executive becomes eligible for disability income under the Company's disability income insurance (if any) or until the termination of Executive's employment, whichever shall first occur.

5.3 **Disability Income Payments.** While receiving disability income payments under the Company's disability income insurance (if any), Executive shall not be entitled to receive any Base Salary, but shall continue to be eligible to participate in all other compensation and benefits in accordance with Sections 1.4 and 2 until the date of his termination. Notwithstanding the foregoing and in accordance with the Company's benefit plans, Executive may be ineligible for coverage as an employee under the Company's group health insurance plan during the period of Executive's Disability, in which case continued coverage will be based on eligibility for COBRA or applicable state continuation coverage. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan.

5.4 **Verification of Disability.** If any question shall arise as to whether during any period Executive is disabled through any illness, injury, accident or condition of either a physical or psychological nature so as to be unable to perform substantially all of Executive's duties and responsibilities hereunder, Executive may, and at the request of the Company shall, submit to a medical examination by one or more licensed physicians selected by the Company to whom Executive or Executive's guardian has no reasonable objection to determine whether Executive is so disabled and such determination shall for the purposes of this Agreement be conclusive of the issue. If such question shall arise and Executive shall fail to submit to such medical examination, the Company's determination of the issue shall be binding on Executive.

6. **TERMINATION FOR CAUSE.** The Company may terminate the employment of Executive hereunder at any time for "cause" (such termination being hereinafter referred to as a "**Termination for Cause**") by giving Executive notice of such termination as described in Section 9.5, upon the giving of such notice termination shall take effect immediately. For the purpose of this Section 6, "cause" will mean that the Company has determined in its sole discretion that any of the following occurred: (a) Executive's breach of fiduciary duty or substantial misconduct with respect to the business and affairs of the Company or any subsidiary or affiliate thereof, (b) Executive's neglect of duties or failure to act which can reasonably be expected to materially adversely affect the business or affairs of the Company, the Company or any subsidiary or affiliate thereof, (c) Executive's material breach of this Agreement, or of any provision of the Employee Proprietary Information Agreement which, to the extent curable, is not cured within 15 days after written notice thereof is given to Executive, (d) the commission by Executive of an act involving moral turpitude or fraud, (e) Executive's conviction of any felony, or of any misdemeanor involving fraud, theft, embezzlement, forgery or moral turpitude, (f) other conduct by Executive that is materially harmful to the business or reputation of the Company, including but not limited to his conduct found to be in violation of the Company's policies prohibiting harassment or discrimination, or (g) the expiration of this Agreement.

7. **TERMINATION WITHOUT CAUSE.** The Company, on recommendation from the Board of Directors of the Company, may terminate the employment of Executive hereunder at any time without "cause" (such termination being hereinafter called a "**Termination Without Cause**") by giving Executive notice of such termination as described in Section 9.5. Executive's termination of employment under this Section 7 will take effect immediately upon the giving of such notice.

8. **RESIGNATION BY EXECUTIVE.**

8.1 **Without Good Reason.** Any resignation by Executive other than for Good Reason (as defined below) will be referred to hereinafter as a "***Resignation***". A Resignation will be deemed to be effective following notice under Section 9.5.

8.2 **With Good Reason.** Provided Executive has not previously been notified of the Company's intention to terminate Executive's employment, Executive may resign from employment with the Company for Good Reason (as defined below) by giving the Company written notice of such termination in compliance with Section 9.5 and provided that such notice specifies: (i) the basis for termination; and (ii) the effective date of termination (such termination being hereinafter referred to as a "***Termination for Good Reason***"). For purposes of this Agreement, the term "***Good Reason***" shall mean any of the following without Executive's prior written consent: (x) any material diminution of Executive's duties or responsibilities hereunder (except in each case in connection with a Termination for Cause or as a result of Executive's death or Disability), or, the assignment to Executive of duties or responsibilities that are materially inconsistent with Executive's then position; *provided, however*, that the acquisition of the Company and subsequent conversion of the Company to a division or unit of the acquiring company will not by itself result in a diminution of Executive's duties or responsibilities; (y) any material breach of the Agreement by the Company which is not cured within 15 business days after written notice thereof is given to the Company; or (z) a relocation of Executive from the Company's principal office to a location more than 35 miles from the location of the Company's principal office, other than on required travel by Executive on the Company's business or on a temporary basis not to exceed a period equal to two calendar months; *provided, however*, that any such termination by Executive shall only be deemed for Good Reason pursuant to this definition if: (1) Executive gives the Company written notice of his intent to terminate for Good Reason within 30 days following the first occurrence of the condition(s) that he believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within 30 days following receipt of the written notice (the "***Cure Period***"); (3) the Company has not, prior to receiving such notice from Executive, already informed Executive that his employment with the Company is being terminated; and (4) Executive voluntarily terminates his employment within 30 days following the end of the Cure Period.

9. **EFFECT OF TERMINATION OF EMPLOYMENT.**

9.1 **Voluntary Termination, Death or Disability Termination, or a Termination for Cause.** Upon the termination of Executive's employment hereunder pursuant to a Voluntary Termination, Death or Disability Termination, or a Termination for Cause, neither Executive nor his beneficiary or estate will receive severance payments, or any other severance compensation or benefit, or have any further rights or claims against the Company, its affiliates, or its subsidiaries under this Agreement except to receive:

(a) the accrued but unpaid portion of Executive's then current Base Salary, computed on a pro-rata basis to the date of such termination, subject to the Company's standard payroll policies;

(b) all compensation and benefits payable to Executive based on his then current participation in any compensation or benefit plan, program or arrangement through the date of termination; and

(c) reimbursement for any expenses for which Executive shall not have theretofore been reimbursed as provided in the Company's standard expense reimbursement policy.

9.2 Termination Without Cause or for Good Reason (Other Than Change in Control). Upon the termination of Executive's employment hereunder pursuant to a Termination Without Cause or a Termination for Good Reason (other than in connection with a Change in Control (as defined below)), neither Executive nor his beneficiary or estate will have any further rights or claims against the Company, its affiliates or its subsidiaries under this Agreement except to receive:

(a) a termination payment equal to that provided for in Section 9.1 hereto; and

(b) if Executive executes a general release in favor of the Company, substantially in the form attached hereto as Exhibit B (the "**Release**"), and subject to Section 9.2(c) (the date that the Release becomes effective and may no longer be revoked by Executive is referred to as the "**Release Date**"), then the Company shall pay to Executive the following severance benefits (such benefits referred to as "**Severance Benefits**"): (i) continuation of Executive's then current Base Salary for a period of twelve (12) months from the Release Date (such applicable period is referred to as the "**Severance Period**"), less applicable withholdings and deductions ("**Severance Pay**"), paid in equal installments beginning on the Company's first regularly scheduled payroll date that is at least sixty (60) days following the Release Date (the "**Severance Pay Commencement Date**"), with the remaining installments occurring on the Company's regularly scheduled payroll dates thereafter; provided, however, that on the Severance Pay Commencement Date, the Company will pay in a lump sum the aggregate amount of the Severance Pay that the Company would have paid Executive through such date had the payments commenced on the first regular payroll date following the Separation from Service (as defined below) through the Severance Pay Commencement Date, with the balance paid thereafter on the applicable schedule described above; and (ii) payment of the premiums of Executive's group health insurance COBRA continuation coverage, including coverage for Executive's eligible dependents, for a maximum period of twelve (12) months following his Termination Without Cause or a Termination for Good Reason (other than in connection with a Change in Control (as defined below)) (such period subject to the qualifications of this Section 9.2(b) referred to as "**COBRA Payment Period**"); provided, however, that (a) the Company shall pay premiums for Executive and Executive's eligible dependents only for coverage for which Executive and Executive's eligible dependents were enrolled immediately prior to the Termination Without Cause or Termination for Good Reason; (b) the Company's obligation to pay such premiums shall cease immediately upon Executive's eligibility for comparable group health insurance provided by a new employer of Executive or upon Executive no longer being eligible for COBRA during the COBRA Payment Period; and (c) the Company's obligation to pay such premiums shall be contingent on Executive's timely election of continued group health insurance coverage under COBRA. Vesting of any unvested stock options and/or other equity securities shall cease on the date of termination following Executive's Termination Without Cause or a Termination for Good Reason (other than in connection with a Change in Control (as defined below)). In addition, the Company's severance

obligation shall be reduced by the amount of any salary received by Executive from another employer during the Severance Period. Executive agrees to inform the Company promptly if he obtains other employment during the Severance Period. Notwithstanding the foregoing, if at any time the Company determines, in its sole discretion, that the payment of the COBRA premiums would result in a violation of the nondiscrimination rules of Section 105(h)(2) of the Code or any statute or regulation of similar effect (including, without limitation, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of providing the COBRA premiums, the Company will instead pay Executive, on the first day of each month of the remainder of the COBRA Payment Period, a fully taxable cash payment equal to the COBRA premiums for that month, subject to applicable tax withholdings and deductions (such amount, the “**Special Severance Payment**”).

(c) To receive the Severance Benefits pursuant to Section 9.2(b), Executive’s termination or resignation must constitute a “separation from service” (as defined under Treasury Regulation Section 1.409A-1(h)) (“**Separation from Service**”) and Executive must execute and allow the Release to become effective within 60 days of Executive’s termination or resignation. Executive’s ability to receive the Severance Benefits pursuant to Section 9.2(b) is further conditioned upon him: returning all Company property; complying with post-termination obligations under this Agreement and the Employee Proprietary Information Agreement, and complying with the Release including without limitation any non-disparagement and confidentiality provisions contained therein. The Severance Benefits provided to Executive pursuant to Section 9.2(b) are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(d) The damages (if any) caused to Executive by a Termination Without Cause or a Termination for Good Reason would be difficult to ascertain; therefore, the Severance Benefits for which Executive is eligible pursuant to Section 9.2(b) above in exchange for the Release is agreed to by the parties as liquidated damages, to serve as full compensation, and not a penalty.

9.3 Change in Control Severance Benefits.

(a) In the event that the Company (or any surviving or acquiring corporation) terminates Executive’s employment for a Termination Without Cause or Executive resigns in connection with a Termination for Good Reason within 12 months following the effective date of a Change in Control (“**Change in Control Termination**”), and upon compliance with Section 9.2(c) above, Executive shall be eligible to receive the following Change in Control severance benefits instead of the Severance Benefits set forth in Section 9.2 above: (i) a lump-sum cash payment in an amount equal to Executive’s annual Base Salary then in effect for a period of twelve (12) months, less applicable withholdings and deductions, paid on the 60th day following the Change in Control Termination; (ii) an amount equal to Executive’s Target Bonus award for the 12 month period immediately prior to Executive’s Change in Control Termination, paid in a lump sum on the 60th day following the Change in Control Termination and (iii) the Company (or any surviving or acquiring corporation) shall pay the premiums of Executive’s group health insurance COBRA continuation coverage, including coverage for Executive’s eligible dependents, during the twelve (12) month period following a Change in Control Termination (such period subject to the qualifications of this Section 9.3(a) referred to as “**CIC COBRA Payment Period**”); *provided, however*, that (a) the Company (or any surviving or acquiring corporation) shall pay premiums for Executive and Executive’s eligible

dependents only for coverage for which Executive and Executive's eligible dependents were enrolled immediately prior to the Change in Control Termination; and (b) the Company's (or any surviving or acquiring corporation's) obligation to pay such premiums shall cease immediately upon Executive's eligibility for comparable group health insurance provided by a new employer of Executive or upon Executive no longer being eligible for COBRA during the CIC COBRA Payment Period; and (c) the Company's obligation to pay such premiums shall be contingent on Executive's timely election of continued group health insurance coverage under COBRA. Executive agrees that the Company's (or any surviving or acquiring corporation's) payment of health insurance premiums will satisfy its obligations under COBRA for the period provided. No insurance premium payments will be made following the effective date of Executive's coverage by a health insurance plan of a subsequent employer. For the balance of the period that Executive is entitled to coverage under federal COBRA law, if any, Executive shall be entitled to maintain such coverage at Executive's own expense. Notwithstanding the foregoing, if at any time the Company determines, in its sole discretion, that the payment of the COBRA premiums would result in a violation of the nondiscrimination rules of Section 105(h)(2) of the Code or any statute or regulation of similar effect (including, without limitation, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of providing the COBRA premiums, the Company will instead pay Executive, on the first day of each month of the remainder of the CIC COBRA Payment Period, the Special Severance Payment.

(b) To receive the payments in Section 9.3(a), Executive's termination or resignation must constitute a Separation from Service (as defined under Treasury Regulation Section 1.409A-1(h)) and Executive must execute and allow the Release to become effective within 60 days of Executive's termination or resignation. Executive's ability to receive benefits pursuant to Section 9.3(a) is further conditioned upon him: returning all Company property; complying with his post-termination obligations under this Agreement and the Employee Proprietary Information Agreement, and complying with the Release including without limitation any non-disparagement and confidentiality provisions contained therein.

(c) In addition, notwithstanding anything contained in Executive's stock option agreements to the contrary, upon a Change in Control Termination, and provided that Executive executes the Release within the timeframe provided by the Company, Executive shall receive accelerated vesting of all then unvested shares of the Company's Common Stock subject to outstanding stock options that he then may have, if any, provided, however, that Executive's stock options shall remain outstanding following the date of Executive's Change in Control Termination if and to the extent necessary to give effect to this Section 9.3(c) subject to earlier termination under the terms of the equity plan under which such awards were granted and the original maximum term of the award (without regard to Executive's termination). For the avoidance of doubt, if Executive has been awarded Restricted Stock Units by the Company, Executive's outstanding Restricted Stock Units that are unvested as of the date of a Change in Control Termination shall not vest upon the Change in Control Termination, unless otherwise determined by the Board or the Compensation Committee of the Board or otherwise set forth in the grant notices or agreements governing the Restricted Stock Units.

(d) As used in this Agreement, a "**Change in Control**" is defined as the first to occur of the following: (a) a sale, lease, exchange or other transfer in one transaction or a series of related transactions of all or substantially all of the assets of the Company (other than the transfer of

the Company's assets to a majority-owned subsidiary corporation); (b) a merger or consolidation in which the Company is not the surviving corporation (unless the holders of the Company's outstanding voting stock immediately prior to such transaction own, immediately after such transaction, securities representing at least fifty percent (50%) of the voting power of the corporation or other entity surviving such transaction); (c) a reverse merger in which the Company is the surviving corporation but the shares of the Company's common stock outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise (unless the holders of the Company's outstanding voting stock immediately prior to such transaction own, immediately after such transaction, securities representing at least fifty percent (50%) of the voting power of the Company); or (d) any transaction or series of related transactions in which in excess of 50% of the Company's voting power is transferred. Notwithstanding the foregoing, to the extent that the Company determines that any of the payments or benefits under this Agreement that are payable in connection with a Change in Control constitute deferred compensation under Section 409A that may only be paid on a qualifying transaction (that is, they are not "exempt" under 409A), the foregoing definition of Change in Control shall apply only to the extent the transaction also meets the definition used for purposes of Treasury Regulation Section 1.409A-3(a)(5), that is, as defined under Treasury Regulation Section 1.409A-3(i)(5).

9.4 Parachute Taxes.

(a) If any payment or benefit Executive would receive from the Company or otherwise in connection with a Change of Control or other similar transaction ("**Payment**") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "**Excise Tax**"), then such Payment will be equal to the Reduced Amount. The "**Reduced Amount**" will be either (x) the largest portion of the Payment that would result in no portion of the Payment being subject to the Excise Tax, or (y) the largest portion, up to and including the total, of the Payment, whichever amount ((x) or (y)), after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt of the greater economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a Reduced Amount will give rise to the greater after tax benefit, the reduction in the Payments will occur in the following order: (a) reduction of cash payments; (b) cancellation of accelerated vesting of equity awards other than stock options; (c) cancellation of accelerated vesting of stock options; and (d) reduction of other benefits paid to Executive. Within any such category of payments and benefits (that is, (a), (b), (c) or (d)), a reduction will occur first with respect to amounts that are not "deferred compensation" within the meaning of Section 409A and then with respect to amounts that are. In the event that acceleration of compensation from Executive's equity awards is to be reduced, such acceleration of vesting will be canceled, subject to the immediately preceding sentence, in the reverse order of the date of grant.

(b) The registered public accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the event described in Section 280G(b)(2)(A)(i) of the Code will perform the foregoing calculations. If the registered public accounting firm so engaged by the Company is serving as accountant or auditor for the acquirer or is otherwise unable or unwilling to perform the calculations, the Company will appoint a nationally recognized firm that has expertise in these calculations to make the determinations required hereunder. The Company will bear all expenses with respect to the determinations by such independent registered

public accounting firm required to be made hereunder. The firm engaged to make the determinations hereunder will provide its calculations, together with detailed supporting documentation, to the Company and Executive within 30 calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as reasonably requested by the Company or Executive. Any good faith determinations of the independent registered public accounting firm made hereunder will be final, binding and conclusive upon the Company and Executive.

9.5 Notice; Effective Date of Termination.

(a) Termination of Executive's employment pursuant to this Agreement shall be effective on the earliest of:

(i) immediately after the Company gives notice to Executive of Executive's Termination for Cause or Termination Without Cause, unless pursuant to Section 6(c) in which case 15 days after notice if not cured or unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(ii) immediately upon Executive's death;

(iii) immediately after the Company gives notice to Executive of Executive's termination on account of Executive's Disability, unless the Company specifies a later date, in which case, termination shall be effective as of such later date, *provided* that Executive has not returned to the full time performance of Executive's duties prior to such date; or

(iv) 10 days after Executive gives written notice to the Company of Executive's Resignation; *provided* that the Company may set a termination date at any time between the date of notice and the date of resignation, in which case Executive's resignation shall be effective as of such other date. Executive will receive compensation through any required notice period.

(v) the date set forth in Section 8.2 above for a Termination for Good Reason.

(b) In the event notice of a termination under subsections (a)(i), (iii) and (iv) is given orally, at the other party's request, the party giving notice must provide written confirmation of such notice within 5 business days of the request in compliance with the requirement of Section 10.1 below.

9.6 Cooperation With Company After Termination of Employment. Following termination of Executive's employment for any reason, Executive shall fully cooperate with the Company in all matters relating to the winding up of Executive's pending work including, but not limited to, any litigation in which the Company is involved, and the orderly transfer of any such pending work to such other employees as may be designated by the Company.

9.7 Application of Section 409A. It is intended that all of the benefits and

payments under this Agreement satisfy, to the greatest extent possible, the exemptions from the application of Code Section 409A provided under Treasury Regulations 1.409A-1(b)(4) and 1.409A-1(b)(9), and this Agreement will be construed to the greatest extent possible as consistent with those provisions. If not so exempt, this Agreement (and any definitions hereunder) will be construed in a manner that complies with Section 409A, and incorporates by reference all required definitions and payment terms. For purposes of Code Section 409A (including, without limitation, for purposes of Treasury Regulation Section 1.409A-2(b)(2)(iii)), Executive's right to receive any installment payments under this Agreement (whether severance payments, reimbursements or otherwise) will be treated as a right to receive a series of separate payments and, accordingly, each installment payment hereunder will at all times be considered a separate and distinct payment. Notwithstanding any provision to the contrary in this Agreement, if Executive is deemed by the Company at the time of his Separation from Service to be a "specified employee" for purposes of Code Section 409A(a)(2)(B)(i), and if any of the payments upon Separation from Service set forth herein and/or under any other agreement with the Company are deemed to be "deferred compensation", then if delayed commencement of any portion of such payments is required to avoid a prohibited distribution under Code Section 409A(a)(2)(B)(i) and the related adverse taxation under Section 409A, the timing of the payments upon a Separation from Service will be delayed as follows: on the earlier to occur of (i) the date that is six months and one day after the effective date of Executive's Separation from Service, and (ii) the date of Executive's death (such earlier date, the "**Delayed Initial Payment Date**"), the Company will (A) pay to Executive a lump sum amount equal to the sum of the payments upon Separation from Service that Executive would otherwise have received through the Delayed Initial Payment Date if the commencement of the payments had not been delayed pursuant to this paragraph, and (B) commence paying the balance of the payments in accordance with the applicable payment schedules set forth above. No interest will be due on any amounts so deferred. To the extent that any severance payments or benefits payable to Executive pursuant to this Agreement are not otherwise exempt from the application of Code Section 409A, then, if the period during which Executive may consider and sign the Release spans two calendar years, the payment of severance will not be made or begin until the later calendar year.

10. GENERAL PROVISIONS.

10.1 Notices. Any notices required hereunder to be in writing shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic mail or confirmed facsimile if sent during normal business hours of the recipient, and if not, then on the next business day, (c) 5 days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) 1 day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the Company, "Attention Chairman of the Board," at its primary office location and to Executive at Executive's address as listed on the Company payroll, or at such other address as the Company or Executive may designate by 10 days advance written notice to the other.

10.2 Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will

not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

10.3 Survival. Provisions of this Agreement which by their terms must survive the termination of this Agreement in order to effectuate the intent of the parties will survive any such termination, whether by expiration of the term, termination of Executive's employment, or otherwise, for such period as may be appropriate under the circumstances.

10.4 Waiver. If either party should waive any breach of any provisions of this Agreement, Executive or the Company shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

10.5 Complete Agreement. This Agreement constitutes the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written communications and agreements. This Agreement is entered into without reliance on any promise or representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company. The parties have entered into a separate Employee Proprietary Information Agreement and have or may enter into separate agreement related to stock awards. These separate agreements govern other aspects of the relationship between the parties, have or may have provisions that survive termination of Executive's employment under this Agreement, may be amended or superseded by the parties without regard to this Agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

10.6 Further Assurances. Executive agrees to execute, acknowledge, seal and deliver such further assurances, documents, applications, agreements and instruments, and to take such further actions, as the Company may reasonably request in order to accomplish the purposes of this Agreement.

10.7 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

10.8 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

10.9 Successors and Assigns. This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any of his duties hereunder and he may not assign any of his rights hereunder without the written consent of the Company, which shall not be withheld unreasonably.

10.10 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of Maryland, without

giving effect to choice of law principles. Executive and the Company hereby expressly consent to the personal jurisdiction and venue of the state and federal courts located in the State of Maryland for any claims or suits arising from or related to this Agreement.

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Executive Employment Agreement on the day and year first written above.

GLYCOMIMETICS, INC.

EXECUTIVE:

/s/ Rachel K. King

/s/ Armand Girard

(Signature)

(Signature)

By: Rachel K. King

By: Armand Girard

Title: Chief Executive Officer

Exhibit A

Employee Proprietary Information, Inventions, Non-Competition and Non-Solicitation Agreement

**EMPLOYEE CONFIDENTIAL INFORMATION, INVENTIONS, NON-SOLICITATION
AND NON-COMPETITION AGREEMENT**

In consideration of my employment or continued employment by GlycoMimetics, Inc., and its subsidiaries, parents, affiliates, successors and assigns (together, "**Company**") and the compensation now and later paid to me, I hereby enter into this Employee Confidential Information, Inventions, Non-Solicitation and Non-Competition Agreement (the "**Agreement**") and agree as follows:

1. CONFIDENTIAL INFORMATION PROTECTIONS.

1.1 Recognition of Company's Rights; Nondisclosure. I understand and acknowledge that my employment by Company creates a relationship of confidence and trust with respect to Company's Confidential Information (as defined below) and that Company has a protectable interest therein. At all times during and after my employment, I will hold in confidence and will not disclose, use, lecture upon or publish any of Company's Confidential Information, except as such disclosure, use or publication may be required in connection with my work for Company, or unless an officer of Company expressly authorizes such disclosure in writing. I will obtain Company's written approval before publishing or submitting for publication any material (written, verbal, or otherwise) that discloses and/or incorporates any Confidential Information. I hereby assign to Company any rights I may have or acquire in such Confidential Information and recognize that all Confidential Information shall be the sole and exclusive property of Company and its assigns. I will take all reasonable precautions to prevent the inadvertent or accidental disclosure of Confidential Information. Notwithstanding the foregoing, pursuant to 18 U.S.C. Section 1833(b), I shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that: (1) is made in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney, and solely for the purpose of reporting or investigating a suspected violation of law; or (2) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

1.2 Confidential Information. The term "Confidential Information" shall mean any and all confidential knowledge, data or information of Company. By way of illustration but not limitation, "**Confidential Information**" includes (a) trade secrets, inventions, mask works, ideas, processes, formulas, software in source or object code versions, data, programs, other works of authorship, know-how, improvements, discoveries, developments, designs and techniques and any other proprietary technology and all Intellectual Property Rights therein (collectively, "**Inventions**"); (b) information regarding research, development, new products, marketing and selling, business plans, budgets and unpublished financial statements, licenses, prices and costs, margins, discounts, credit terms, pricing and billing

policies, quoting procedures, methods of obtaining business, forecasts, future plans and potential strategies, financial projections and business strategies, operational plans, financing and capital-raising plans, activities and agreements, internal services and operational manuals, methods of conducting Company business, suppliers and supplier information, and purchasing; (c) information regarding customers and potential customers of Company, including customer lists, names, representatives, their needs or desires with respect to the types of products or services offered by Company, proposals, bids, contracts and their contents and parties, the type and quantity of products and services provided or sought to be provided to customers and potential customers of Company and other non-public information relating to customers and potential customers; (d) information regarding any of Company's business partners and their services, including names; representatives, proposals, bids, contracts and their contents and parties, the type and quantity of products and services received by Company, and other non-public information relating to business partners; (e) information regarding personnel, employee lists, compensation, and employee skills; and (f) any other non-public information which a competitor of Company could use to the competitive disadvantage of Company. Notwithstanding the foregoing, it is understood that, at all such times, I am free to use information which was known to me prior to employment with Company or which is generally known in the trade or industry through no breach of this Agreement or other act or omission by me. Notwithstanding the foregoing or anything to the contrary in this Agreement or any other agreement between Company and me, nothing in this Agreement shall limit my right to discuss my employment or report possible violations of law or regulation with the Equal Employment Opportunity Commission, United States Department of Labor, the National Labor Relations Board, the Securities and Exchange Commission, or other federal government agency or similar state or local agency or to discuss the terms and conditions of my employment with others to the extent expressly permitted by Section 7 of the National Labor Relations Act or to the extent that such disclosure is protected under the applicable provisions of law or regulation, including but not limited to "whistleblower" statutes or other similar provisions that protect such disclosure.

1.3 Third Party Information. I understand, in addition, that Company has received and in the future will receive from third parties their confidential and/or proprietary knowledge, data or information ("**Third Party**

Information”) subject to a duty on Company’s part to maintain the confidentiality of such information and to use it only for certain limited purposes. During my employment and thereafter, I will hold Third Party Information in confidence and will not disclose to anyone (other than Company personnel who need to know such information in connection with their work for Company) or use, except in connection with my work for Company, Third Party Information unless expressly authorized by an officer of Company in writing.

1.4 Term of Nondisclosure Restrictions. I understand that Confidential Information and Third Party Information is never to be used or disclosed by me, as provided in this Section 1. If a temporal limitation on my obligation not to use or disclose such information is required under applicable law, and the Agreement or its restriction(s) cannot otherwise be enforced, I agree and Company agrees that the two (2) year period after the date my employment ends will be the temporal limitation relevant to the contested restriction, provided, however, that this sentence will not apply to trade secrets protected without temporal limitation under applicable law.

1.5 No Improper Use of Information of Prior Employers and Others. During my employment by Company, I will not improperly use or disclose confidential information or trade secrets, if any, of any former employer or any other person to whom I have an obligation of confidentiality, and I will not bring onto the premises of Company any unpublished documents or any property belonging to any former employer or any other person to whom I have an obligation of confidentiality unless consented to in writing by that former employer or person.

2. ASSIGNMENTS OF INVENTIONS.

2.1 Definitions. As used in this Agreement, the term **“Intellectual Property Rights”** means all trade secrets, Copyrights, trademarks, mask work rights, patents and other intellectual property rights recognized by the laws of any jurisdiction or country; the term **“Copyright”** means the exclusive legal right to reproduce, perform, display, distribute and make derivative works of a work of authorship (as a literary, musical, or artistic work) recognized by the laws of any jurisdiction or country; and the term **“Moral Rights”** means all paternity, integrity, disclosure, withdrawal, special and any other similar rights recognized by the laws of any jurisdiction or country.

2.2 Excluded Inventions and Other Inventions. Attached hereto as **Exhibit A** is a list describing all existing Inventions, if any, that may relate to Company’s business or actual or demonstrably anticipated research or development and that were made by me or acquired by me prior to the commencement of

my employment with, and which are not to be assigned to, Company (**“Excluded Inventions”**). If no such list is attached, I represent and agree that it is because I have no rights in any existing Inventions that may relate to Company’s business or actual or demonstrably anticipated research or development. For purposes of this Agreement, **“Other Inventions”** means Inventions in which I have or may have an interest, as of the commencement of my employment, other than Company Inventions (defined below) and Excluded Inventions. I acknowledge and agree that if I use any Excluded Inventions or any Other Inventions in the scope of my employment, or if I include any Excluded Inventions or Other Inventions in any product or service of Company, or if my rights in any Excluded Inventions or Other Inventions may block or interfere with, or may otherwise be required for, the exercise by Company of any rights assigned to Company under this Agreement, I will immediately so notify Company in writing. Unless Company and I agree otherwise in writing as to particular Excluded Inventions or Other Inventions, I hereby grant to Company, in such circumstances (whether or not I give Company notice as required above), a non-exclusive, perpetual, transferable, fully-paid and royalty-free, irrevocable and worldwide license, with rights to sublicense through multiple levels of sublicensees, to reproduce, make derivative works of, distribute, publicly perform, and publicly display in any form or medium, whether now known or later developed, make, have made, use, sell, import, offer for sale, and exercise any and all present or future rights in, such Excluded Inventions and Other Inventions. To the extent that any third parties have rights in any such Other Inventions, I hereby represent and warrant that such third party or parties have validly and irrevocably granted to me the right to grant the license stated above.

2.3 Assignment of Company Inventions. Inventions assigned to Company, or to a third party as directed by Company pursuant to Section 2.6, are referred to in this Agreement as **“Company Inventions.”** Subject to Section 2.4 (Unassigned or Nonassignable Inventions) and except for Excluded Inventions set forth in **Exhibit A** and Other Inventions, I hereby assign to Company all my right, title, and interest in and to any and all Inventions (and all Intellectual Property Rights with respect thereto) made, conceived, reduced to practice, or learned by me, either alone or with others, during the period of my employment by Company. To the extent required by applicable Copyright laws, I agree to assign in the future (when any copyrightable Inventions are first fixed in a tangible medium of expression) my Copyright rights in and to such Inventions. Any assignment of Company Inventions (and all Intellectual Property Rights with respect thereto) hereunder includes an assignment of all Moral Rights. To the extent such Moral Rights cannot be assigned to Company and to the extent the following is allowed by the laws in any country where Moral Rights exist, I hereby unconditionally and irrevocably waive the

enforcement of such Moral Rights, and all claims and causes of action of any kind against Company or related to Company's customers, with respect to such rights. I further acknowledge and agree that neither my successors-in-interest nor legal heirs retain any Moral Rights in any Company Inventions (and any Intellectual Property Rights with respect thereto).

2.4 Unassigned or Nonassignable Inventions. I recognize that this Agreement will not be deemed to require assignment of any Invention that I developed entirely on my own time without using Company's equipment, supplies, facilities, trade secrets or Confidential Information, except for those Inventions that either (i) relate to Company's actual or anticipated business, research or development, or (ii) result from or are connected with work performed by me for Company. In addition, this Agreement does not apply to any Invention which qualifies fully for protection from assignment to Company under any specifically applicable state law, regulation, rule or public policy ("**Specific Inventions Law**").

2.5 Obligation to Keep Company Informed. During the period of my employment and for one (1) year after termination of my employment, I will promptly and fully disclose to Company in writing all Inventions authored, conceived, or reduced to practice by me, either alone or jointly with others. In addition, I will promptly disclose to Company all patent applications filed by me or on my behalf within one (1) year after termination of employment. At the time of each such disclosure, I will advise Company in writing of any Inventions that I believe fully qualify for protection under the provisions of any applicable Specific Inventions Law; and I will at that time provide to Company in writing all evidence necessary to substantiate that belief. Company will keep in confidence and will not use for any purpose or disclose to third parties without my consent any Confidential Information disclosed in writing to Company pursuant to this Agreement relating to Inventions that qualify fully for protection under a Specific Inventions Law. I will preserve the confidentiality of any Invention that does not fully qualify for protection under a Specific Inventions Law.

2.6 Government or Third Party. I agree that, as directed by Company, I will assign to a third party, including without limitation the United States, all my right, title, and interest in and to any particular Company Invention.

2.7 Ownership of Work Product.

(a) I acknowledge that all original works of authorship which are made by me (solely or jointly with others) within the scope of my employment and which are protectable by Copyright are "works made for

hire," pursuant to United States Copyright Act (17 U.S.C., Section 101).

(b) I agree that Company will exclusively own all work product that is made by me (solely or jointly with others) within the scope of my employment, and I hereby irrevocably and unconditionally assign to Company all right, title, and interest worldwide in and to such work product. I understand and agree that I have no right to publish on, submit for publishing, or use for any publication any work product protected by this Section, except as necessary to perform services for Company.

2.8 Enforcement of Intellectual Property Rights and Assistance. I will assist Company in every proper way to obtain, and from time to time enforce, United States and foreign Intellectual Property Rights and Moral Rights relating to Company Inventions in any and all countries. To that end I will execute, verify and deliver such documents and perform such other acts (including appearances as a witness) as Company may reasonably request for use in applying for, obtaining, perfecting, evidencing, sustaining and enforcing such Intellectual Property Rights and the assignment thereof. In addition, I will execute, verify and deliver assignments of such Intellectual Property Rights to Company or its designee, including the United States or any third party designated by Company. My obligation to assist Company with respect to Intellectual Property Rights relating to such Company Inventions in any and all countries will continue beyond the termination of my employment, but Company will compensate me at a reasonable rate after my termination for the time actually spent by me at Company's request on such assistance. In the event Company is unable for any reason, after reasonable effort, to secure my signature on any document needed in connection with the actions specified in this paragraph, I hereby irrevocably designate and appoint Company and its duly authorized officers and agents as my agent and attorney in fact, which appointment is coupled with an interest, to act for and in my behalf to execute, verify and file any such documents and to do all other lawfully permitted acts to further the purposes of the preceding paragraph with the same legal force and effect as if executed by me. I hereby waive and quitclaim to Company any and all claims, of any nature whatsoever, which I now or may hereafter have for infringement of any Intellectual Property Rights assigned under this Agreement to Company.

2.9 Incorporation of Software Code. I agree that I will not incorporate into any Company software or otherwise deliver to Company any software code licensed under the GNU General Public License or Lesser General Public License or any other license that, by its terms, requires or conditions the use or distribution of such code on the disclosure, licensing, or distribution of any source code owned or licensed by Company except

in strict compliance with Company's policies regarding the use of such software.

3. RECORDS. I agree to keep and maintain adequate and current records (in the form of notes, sketches, drawings and in any other form that is required by Company) of all Confidential Information developed by me and all Company Inventions made by me during the period of my employment at Company, which records will be available to and remain the sole property of Company at all times.

4. DUTY OF LOYALTY DURING EMPLOYMENT. I agree that during the period of my employment by Company I will not, without Company's express written consent, directly or indirectly engage in any employment or business activity which is directly or indirectly competitive with, or would otherwise conflict with, my employment by Company.

5. NO SOLICITATION OF EMPLOYEES, CONSULTANTS, CONTRACTORS, OR CUSTOMERS OR POTENTIAL CUSTOMERS. I agree that during the period of my employment and for the one (1) year period after the date my employment ends for any reason, including but not limited to voluntary termination by me or involuntary termination by Company, I will not, as an officer, director, employee, consultant, owner, partner, or in any other capacity, either directly or through others, except on behalf of Company:

5.1 solicit, induce, encourage, or participate in soliciting, inducing or encouraging any person known to me to be an employee, consultant, or independent contractor of Company to terminate his or her relationship with Company, even if I did not initiate the discussion or seek out the contact;

5.2 solicit, induce, encourage, or participate in soliciting, inducing, or encouraging any person known to me to be an employee, consultant, or independent contractor of Company to terminate his or her relationship with Company to render services to me or any other person or entity that researches, develops, markets, sells, performs or provides or is preparing to develop, market, sell, perform or provide Conflicting Services (as defined in Section 6 below);

5.3 hire, employ, or engage in a business venture with as partners or owners or other joint capacity, or attempt to hire, employ, or engage in a business venture as partners or owners or other joint capacity, with any person then employed by Company or who has left the employment of Company within the preceding three (3) months to research, develop, market, sell, perform or provide Conflicting Services;

5.4 solicit, induce or attempt to induce any Customer or Potential Customer (as defined below), to terminate, diminish, or materially alter in a manner harmful to Company its relationship with Company;

5.5 solicit or assist in the solicitation of any Customer or Potential Customer to induce or attempt to induce such Customer or Potential Customer to purchase or contract for any Conflicting Services; or

5.6 perform, provide or attempt to perform or provide any Conflicting Services for a Customer or Potential Customer.

The parties agree that for purposes of this Agreement, a "**Customer or Potential Customer**" is any person or entity who or which, at any time during the one (1) year period prior to my contact with such person or entity as described in Sections 5.4-5.6 above if such contact occurs during my employment or, if such contact occurs following the termination of my employment, during the one (1) year period prior to the date my employment with Company ends: (i) contracted for, was billed for, or received from Company any product, service or process with which I worked directly or indirectly during my employment by Company or about which I acquired Confidential Information; or (ii) was in contact with me or in contact with any other employee, owner, or agent of Company, of which contact I was or should have been aware, concerning the sale or purchase of, or contract for, any product, service or process with which I worked directly or indirectly during my employment with Company or about which I acquired Confidential Information; or (iii) was solicited by Company in an effort in which I was involved or of which I was aware.

6. NON-COMPETE PROVISION. I agree that for the one (1) year period after the date my employment ends for any reason, including but not limited to voluntary termination by me or involuntary termination by Company, I will not, directly or indirectly, as an officer, director, employee, consultant, owner, partner, or in any other capacity solicit, perform, or provide, or attempt to perform or provide Conflicting Services anywhere in the Restricted Territory (as defined below), nor will I assist another person to solicit, perform or provide or attempt to perform or provide Conflicting Services anywhere in the Restricted Territory.

The parties agree that for purposes of this Agreement, "**Conflicting Services**" means any product, service, or process or the research and development thereof, of any person or organization other than Company that directly competes with a product, service, or process, including the research and development thereof, of Company with which I worked directly or indirectly during my employment by Company or about which I acquired

The parties agree that for purposes of this Agreement, “**Restricted Territory**” means the one hundred (100) mile radius of any of the following locations: (i) any Company business location at which I have worked on a regular or occasional basis during the preceding year; (ii) my home if I work from home on a regular or occasional basis; (iii) any potential business location of Company under active consideration by Company to which I have traveled in connection with the consideration of that location; (iv) the primary business location of a Customer or Potential Customer; or (v) any business location of a Customer or Potential Customer where representatives of the Customer or Potential Customer with whom I have been in contact in the preceding year are based.

7. REASONABLENESS OF RESTRICTIONS.

7.1 I agree that I have read this entire Agreement and understand it. I agree that this Agreement does not prevent me from earning a living or pursuing my career. I agree that the restrictions contained in this Agreement are reasonable, proper, and necessitated by Company’s legitimate business interests. I represent and agree that I am entering into this Agreement freely and with knowledge of its contents with the intent to be bound by the Agreement and the restrictions contained in it.

7.2 In the event that a court finds this Agreement, or any of its restrictions, to be ambiguous, unenforceable, or invalid, I and Company agree that the court will read the Agreement as a whole and interpret the restriction(s) at issue to be enforceable and valid to the maximum extent allowed by law.

7.3 If the court declines to enforce this Agreement in the manner provided in subsection 7.2, I and Company agree that this Agreement will be automatically modified to provide Company with the maximum protection of its business interests allowed by law and I agree to be bound by this Agreement as modified.

7.4 If after applying the provisions of subsections 7.2 and 7.3, a court still decides that this Agreement or any of its restrictions is unenforceable for lack of reasonable geographic limitation and the Agreement or restriction(s) cannot otherwise be enforced, the parties hereby agree that the fifty (50) mile radius from any location at which I worked for Company on either a regular or occasional basis during the one (1) year immediately preceding termination of my employment with Company shall be the geographic limitation relevant to the contested restriction.

8. NO CONFLICTING AGREEMENT OR OBLIGATION.

I represent that my performance of all the terms of this Agreement and as an employee of Company does not and will not breach any agreement to keep in confidence information acquired by me in confidence or in trust prior to my employment by Company. I have not entered into, and I agree I will not enter into, any agreement either written or oral in conflict with this Agreement.

9. RETURN OF COMPANY PROPERTY. When I leave the employ of Company, I will deliver to Company any and all drawings, notes, memoranda, specifications, devices, formulas and documents, together with all copies thereof, and any other material containing or disclosing any Company Inventions, Third Party Information or Confidential Information of Company. I agree that I will not copy, delete, or alter any information contained upon my Company computer or Company equipment before I return it to Company. In addition, if I have used any personal computer, server, or e-mail system to receive, store, review, prepare or transmit any Company information, including but not limited to, Confidential Information, I agree to provide Company with a computer-useable copy of all such Confidential Information and then permanently delete and expunge such Confidential Information from those systems; and I agree to provide Company access to my system as reasonably requested to verify that the necessary copying and/or deletion is completed. I further agree that any property situated on Company’s premises and owned by Company, including disks and other storage media, filing cabinets or other work areas, is subject to inspection by Company’s personnel at any time with or without notice. Prior to leaving, I will cooperate with Company in attending an exit interview and completing and signing Company’s termination statement if required to do so by Company.

10. LEGAL AND EQUITABLE REMEDIES.

10.1 I agree that it may be impossible to assess the damages caused by my violation of this Agreement or any of its terms. I agree that any threatened or actual violation of this Agreement or any of its terms will constitute immediate and irreparable injury to Company and Company will have the right to enforce this Agreement and any of its provisions by injunction, specific performance or other equitable relief, without bond and without prejudice to any other rights and remedies that Company may have for a breach or threatened breach of this Agreement.

10.2 I agree that if Company is successful in whole or in part in any legal or equitable action against me under this Agreement, Company will be entitled to payment of all costs, including reasonable attorneys’ fees, from me.

10.3 In the event Company enforces this Agreement through a court order, I agree that the restrictions of Sections 5 and 6 will remain in effect for a period of twelve (12) months from the effective date of the order enforcing the Agreement.

11. NOTICES. Any notices required or permitted under this Agreement will be given to Company at its headquarters location at the time notice is given, labeled "Attention Chief Executive Officer," and to me at my address as listed on Company payroll, or at such other address as Company or I may designate by written notice to the other. Notice will be effective upon receipt or refusal of delivery. If delivered by certified or registered mail, notice will be considered to have been given five (5) business days after it was mailed, as evidenced by the postmark. If delivered by courier or express mail service, notice will be considered to have been given on the delivery date reflected by the courier or express mail service receipt.

12. PUBLICATION OF THIS AGREEMENT TO SUBSEQUENT EMPLOYER OR BUSINESS ASSOCIATES OF EMPLOYEE.

12.1 If I am offered employment or the opportunity to enter into any business venture as owner, partner, consultant or other capacity while the restrictions described in Sections 5 and 6 of this Agreement are in effect I agree to inform my potential employer, partner, co-owner and/or others involved in managing the business with which I have an opportunity to be associated of my obligations under this Agreement and also agree to provide such person or persons with a copy of this Agreement.

12.2 I agree to inform Company of all employment and business ventures which I enter into while the restrictions described in Sections 5 and 6 of this Agreement are in effect and I also authorize Company to provide copies of this Agreement to my employer, partner, co-owner and/or others involved in managing the business with which I am employed or associated and to make such persons aware of my obligations under this Agreement.

13. GENERAL PROVISIONS.

13.1 Governing Law; Consent to Personal Jurisdiction. This Agreement will be governed by and construed according to the laws of the State of Maryland as such laws are applied to agreements entered into and to be performed entirely within Maryland between Maryland residents. I hereby expressly consent to the personal jurisdiction and venue of the state and federal courts located in Maryland for any lawsuit filed there against me by Company arising from or related to this Agreement.

13.2 Severability. In case any one or more of the provisions, subsections, or sentences contained in this Agreement will, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect the other provisions of this Agreement, and this Agreement will be construed as if such invalid, illegal or unenforceable provision had never been contained in this Agreement. If moreover, any one or more of the provisions contained in this Agreement will for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it will be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it will then appear.

13.3 Successors and Assigns. This Agreement is for my benefit and the benefit of Company, its successors, assigns, parent corporations, subsidiaries, affiliates, and purchasers, and will be binding upon my heirs, executors, administrators and other legal representatives.

13.4 Survival. The provisions of this Agreement will survive the termination of my employment, regardless of the reason, and the assignment of this Agreement by Company to any successor in interest or other assignee.

13.5 Employment At-Will. I agree and understand that nothing in this Agreement will change my at-will employment status or confer any right with respect to continuation of employment by Company, nor will it interfere in any way with my right or Company's right to terminate my employment at any time, with or without cause or advance notice.

13.6 Waiver. No waiver by Company of any breach of this Agreement will be a waiver of any preceding or succeeding breach. No waiver by Company of any right under this Agreement will be construed as a waiver of any other right. Company will not be required to give notice to enforce strict adherence to all terms of this Agreement.

13.7 Export. I agree not to export, reexport, or transfer, directly or indirectly, any U.S. technical data acquired from Company or any products utilizing such data, in violation of the United States export laws or regulations.

13.8 Advice of Counsel. I ACKNOWLEDGE THAT, IN EXECUTING THIS AGREEMENT, I HAVE HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND I HAVE READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT WILL NOT BE CONSTRUED

AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION OF THIS AGREEMENT.

13.9 Entire Agreement. The obligations pursuant to Sections 1 and 2 (except Subsections 2.4 and 2.7(a)) of this Agreement will apply to any time during which I was previously engaged, or am in the future engaged, by Company as a consultant if no other agreement governs nondisclosure and assignment of Inventions during such period. This Agreement is the final, complete and exclusive agreement of the parties

This Agreement will be effective as of March 1, 2019.

with respect to the subject matter of this Agreement and supersedes and merges all prior discussions between us[; **provided, however, prior to the execution of this Agreement, if Company and I were parties to any agreement regarding the subject matter hereof, that agreement will be superseded by this Agreement prospectively only**]. No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, will be effective unless in writing and signed by the party to be charged. Any subsequent change or changes in my duties, salary or compensation will not affect the validity or scope of this Agreement.

I HAVE READ THIS AGREEMENT CAREFULLY AND UNDERSTAND ITS TERMS. I HAVE COMPLETELY FILLED OUT EXHIBIT A TO THIS AGREEMENT.

/s/ Armand Girard

(Signature)

Armand Girard

(Printed Name)

ACCEPTED AND AGREED TO:

GLYCOMIMETICS, INC.

By: /s/ Rachel King

Rachel King

Chief Executive Officer

**[SIGNATURE PAGE TO CONFIDENTIAL INFORMATION, INVENTIONS,
NON-SOLICITATION AND NON-COMPETITION AGREEMENT]**

EXHIBIT A

LIST OF EXCLUDED INVENTIONS

1. Except as listed in Section 2 below, the following is a complete list of all inventions or improvements relevant to the subject matter of my employment by Company that have been made or conceived or first reduced to practice by me alone or jointly with others prior to my engagement by Company:

No inventions or improvements.

See below:

<u>Title</u>	<u>Date</u>	<u>Identifying Number or Brief Description</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Additional sheets attached.

2. Due to a prior confidentiality agreement, I cannot complete the disclosure under Section 1 above with respect to inventions or improvements generally listed below, the intellectual property rights and duty of confidentiality with respect to which I owe to the following party(ies):

Invention or Improvement	Party(ies)	Relationship
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

Additional sheets attached.

Exhibit B

Release Agreement

This Release Agreement ("**Release**") is made by and between GlycoMimetics, Inc. (the "**Company**") and Armand Girard ("**you**"). You and the Company entered into an Amended and Restated Employment Agreement dated _____ (the "**Employment Agreement**"). You and the Company hereby further agree as follows:

1. A blank copy of this Release was attached to the Employment Agreement as Exhibit B.

2. **Severance Payments.** If your employment was terminated by the Company for a Termination Without Cause, a Termination for Good Reason, or a Change in Control Termination (as defined in the Employment Agreement) in accordance with Section 9 of the Employment Agreement, then in consideration for your execution, return and non-revocation of this Release, following the Release Date (as defined in Section 3 below) the Company will provide severance benefits to you as follows: **[described benefits and payment schedule]**.

3. **Release by You.** In exchange for the payments and other consideration under this Release, to which you would not otherwise be entitled, and except as otherwise set forth in this Release, you hereby generally and completely release, acquit and forever discharge the Company, its parents and subsidiaries, and its and their officers, directors, managers, partners, agents, servants, employees, attorneys, shareholders, successors, assigns and affiliates (the "**Releasees**"), of and from any and all claims, liabilities, demands, causes of action, costs, expenses, attorneys fees, damages, indemnities and obligations of every kind and nature, in law, equity, or otherwise, both known and unknown, suspected and unsuspected, disclosed and undisclosed, arising out of or in any way related to agreements, events, acts or conduct at any time prior to and including the execution date of this Release, including but not limited to: all such claims and demands directly or indirectly arising out of or in any way connected with your employment with the Company or the termination of that employment; claims or demands related to salary, bonuses, commissions, stock, stock options, or any other ownership interests in the Company, vacation pay, fringe benefits, expense reimbursements, severance pay, or any other form of compensation; claims pursuant to any federal, state or local law, statute, or cause of action; tort law; or contract law. The claims and causes of action you are releasing and waiving in this Release include, but are not limited to, any and all claims and causes of action that the Company, its parents and subsidiaries, and its and their respective officers, directors, agents, servants, employees, attorneys, shareholders, successors, assigns or affiliates:

- has violated its personnel policies, handbooks, contracts of employment, or covenants of good faith and fair dealing;
 - has discriminated against you on the basis of age, race, color, sex (including sexual harassment), national origin, ancestry, disability, religion, sexual orientation, marital status, parental status, source of income, entitlement to benefits, any union activities or other protected category in violation of any local, state or federal law, constitution, ordinance, or regulation, including but not limited to: the Age
-

Discrimination in Employment Act, as amended (“ADEA”); Title VII of the Civil Rights Act of 1964, as amended; 42 U.S.C. § 1981, as amended; the Civil Rights Act of 1866; the Fair Employment Practice Act of Maryland, Md. Code Ann., State Government, Title 20; the Worker Adjustment Retraining and Notification Act; the Equal Pay Act; the Americans With Disabilities Act; the Family Medical Leave Act; the Occupational Safety and Health Act; the Immigration Reform and Control Act; the Uniform Services Employment and Reemployment Rights Act of 1994, as amended; Section 510 of the Employee Retirement Income Security Act; and the National Labor Relations Act;

- has violated any statute, public policy or common law (including but not limited to claims for retaliatory discharge; negligent hiring, retention or supervision; defamation; intentional or negligent infliction of emotional distress and/or mental anguish; intentional interference with contract; negligence; detrimental reliance; loss of consortium to you or any member of your family and/or promissory estoppel).

Notwithstanding the foregoing, you are not releasing any right of indemnification you may have for any liabilities arising from your actions within the course and scope of your employment with the Company or within the course and scope of your role as a member of the Board of Directors and/or officer of the Company. Also excluded from this Release are any claims which cannot be waived by law, including, without limitation, any rights you may have under applicable workers’ compensation laws and your right, if applicable, to file or participate in an investigative proceeding of any federal, state or local governmental agency. Nothing in this Release shall prevent you from filing, cooperating with, or participating in any proceeding or investigation before the Equal Employment Opportunity Commission, United States Department of Labor, the National Labor Relations Board, the Occupational Safety and Health Administration, the Securities and Exchange Commission or any other federal government agency, or similar state or local agency (“Government Agencies”), or exercising any rights pursuant to Section 7 of the National Labor Relations Act. You further understand this Release does not limit your ability to voluntarily communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agency, including providing documents or other information, without notice to the Company. While this Release does not limit your right to receive an award for information provided to the Securities and Exchange Commission, you understand and agree that, you are otherwise waiving, to the fullest extent permitted by law, any and all rights you may have to individual relief based on any Claims that you have released and any rights you have waived by signing this Release. If any Claim is not subject to release, to the extent permitted by law, you waive any right or ability to be a class or collective action representative or to otherwise participate in any putative or certified class, collective or multi-party action or proceeding based on such a Claim in which any of the Company Parties is a party. This Release does not abrogate your existing rights under any Company benefit plan or any plan or agreement related to equity ownership in the Company; however, it does waive, release and forever discharge Claims existing as of the date you execute this Release pursuant to any such plan or agreement.

You are waiving, however, your right to any monetary recovery should any governmental agency or entity, such as the EEOC or the DOL, pursue any claims on your behalf. You acknowledge that you are knowingly and voluntarily waiving and releasing any rights you may have under the ADEA, as amended. You also acknowledge that (i) the consideration given to

you in exchange for the waiver and release in this Release is in addition to anything of value to which you were already entitled, and (ii) that you have been paid for all time worked, have received all the leave, leaves of absence and leave benefits and protections for which you are eligible, and have not suffered any on-the-job injury for which you have not already filed a claim. You further acknowledge that you have been advised by this writing that: (a) your waiver and release do not apply to any rights or claims that may arise after the execution date of this Release; (b) you have been advised hereby that you have the right to consult with an attorney prior to executing this Release; (c) you have twenty-one (21) days **[in the event of a group release 21 days becomes 45 days]** to consider this Release (although you may choose to voluntarily execute this Release earlier); (d) you have seven (7) days following your execution of this Release to revoke the Release; and (e) this Release shall not be effective until the date upon which the revocation period has expired unexercised, which shall be the eighth day after this Release is executed by you provided the Company has also executed the Release on or before that date (the “**Release Date**”).

4. Return of Company Property. Within ten (10) days of the effective date of the termination of employment, you agree to return to the Company all Company documents (and all copies thereof) and other Company property then in existence that you have had in your possession at any time, including, but not limited to, Company files, notes, drawings, records, business plans and forecasts, financial information, specifications, computer-recorded information, tangible property (including, but not limited to, computers), credit cards, entry cards, identification badges and keys; and, any materials of any kind that contain or embody any proprietary or confidential information of the Company (and all reproductions thereof). **Receipt of the Severance described in paragraph 2 of this Release is expressly conditioned upon return of all such Company Property.**

5. Confidentiality. The provisions of this Release will be held in strictest confidence by you and will not be publicized or disclosed in any manner whatsoever; *provided, however*, that: (a) you may disclose this Release in confidence to your immediate family; (b) you may disclose this Release in confidence to your attorney, accountant, auditor, tax preparer, and financial advisor; and (c) you may disclose this Release insofar as such disclosure may be required by law. Notwithstanding the foregoing, nothing in this Release shall limit your right to voluntarily communicate with the Equal Employment Opportunity Commission, United States Department of Labor, the National Labor Relations Board, the Securities and Exchange Commission, other federal government agency or similar state or local agency or to discuss the terms and conditions of your employment with others to the extent expressly permitted by Section 7 of the National Labor Relations Act.

6. Proprietary Information, Inventions, Non-Competition and Non-Solicitation Obligations. Both during and after your employment you acknowledge your continuing obligations under your Employee Proprietary Information, Inventions, Non-Competition and Non-Solicitation Agreement (“**Employee Proprietary Information Agreement**”) not to use or disclose any confidential or proprietary information of the Company and to refrain from certain solicitation and competitive activities. Confidential information that is also a “trade secret,” as defined by law, may be disclosed (A) if it is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other

document filed in a lawsuit or other proceeding, if such filing is made under seal. In addition, in the event that you file a lawsuit for retaliation by the Company for reporting a suspected violation of law, you may disclose the trade secret to your attorney and use the trade secret information in the court proceeding, if you: (A) file any document containing the trade secret under seal; and (B) do not disclose the trade secret, except pursuant to court order.

7. Non-Disparagement. You agree not to disparage the Company, and the Company's attorneys, directors, managers, partners, employees, agents and affiliates, in any manner likely to be harmful to them or their business, business reputation or personal reputation; provided that you may respond accurately and fully to any question, inquiry or request for information when required by legal process. Notwithstanding the foregoing, nothing in this Release shall limit your right to voluntarily communicate with the Equal Employment Opportunity Commission, United States Department of Labor, the National Labor Relations Board, the Securities and Exchange Commission, other federal government agency or similar state or local agency or to discuss the terms and conditions of your employment with others to the extent expressly permitted by Section 7 of the National Labor Relations Act.

8. No Admission. This Release does not constitute an admission by the Company of any wrongful action or violation of any federal, state, or local statute, or common law rights, including those relating to the provisions of any law or statute concerning employment actions, or of any other possible or claimed violation of law or rights.

9. Breach. You agree that upon any material breach of this Release you will forfeit all amounts paid or owing to you under this Release. Further, you acknowledge that it may be impossible to assess the damages caused by your material violation of the terms of paragraphs 4, 5, 6, and 7 of this Release and further agree that any threatened or actual material violation or breach of those paragraphs of this Release will constitute immediate and irreparable injury to the Company. You therefore agree that any such breach of this Release is a material breach of this Release, and, in addition to any and all other damages and remedies available to the Company upon your breach of this Release, the Company shall be entitled to an injunction to prevent you from violating or breaching this Release.

10. Miscellaneous. This Release, together with your Employee Proprietary Information Agreement, constitute the complete, final and exclusive embodiment of the entire agreement between you and the Company with regard to this subject matter. It is entered into without reliance on any promise or representation, written or oral, other than those expressly contained herein, and it supersedes any other such promises, warranties or representations. This Release may not be modified or amended except in a writing signed by both you and a duly authorized officer of the Company. This Release will bind the heirs, personal representatives, successors and assigns of both you and the Company, and inure to the benefit of both you and the Company, their heirs, successors and assigns. If any provision of this Release is determined to be invalid or unenforceable, in whole or in part, this determination will not affect any other provision of this Release and the provision in question will be modified by the court so as to be rendered enforceable. This Release will be deemed to have been entered into and will be construed and enforced in accordance with the laws of the State of Maryland as applied to contracts made and performed entirely within the State of Maryland.

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Rachel K. King, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2019 of GlycoMimetics, Inc. (the “registrant”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: May 2, 2019

/s/ Rachel K. King

Rachel K. King
Chief Executive Officer
(principal executive officer)

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Brian M. Hahn, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2019 of GlycoMimetics, Inc. (the “registrant”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: May 2, 2019

/s/ Brian M. Hahn

Brian M. Hahn
Chief Financial Officer
(principal financial officer)

**CERTIFICATIONS OF
PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Rachel K. King, Chief Executive Officer of GlycoMimetics, Inc. (the "Company"), and Brian M. Hahn, Chief Financial Officer of the Company, each hereby certifies that, to the best of his or her knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended March 31, 2019, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned have set their hands hereto as of the 2nd day of May 2019.

/s/ Rachel K. King

Rachel K. King
Chief Executive Officer

/s/ Brian M. Hahn

Brian M. Hahn
Chief Financial Officer

- * This certification accompanies the Periodic Report to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of GlycoMimetics, Inc. under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Periodic Report), irrespective of any general incorporation language contained in such filing.
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