

Ann Arbor, MI 48104

(Mailing Address and zip code)

Registrant's telephone number, including area code: **(734) 332-7800**

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

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

Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 1.01 Entry into a Material Definitive Agreement.

As disclosed in its Current Report on Form 8-K filed on August 10, 2015, Synthetic Biologics, Inc. (the “Company”) entered into the following agreements with Intrexon Corporation (“Intrexon”): an Exclusive Channel Collaboration Agreement, a Stock Issuance Agreement and a Second Amendment to its Registration Rights Agreement that it had previously entered into with Intrexon. On September 2, 2015, in accordance with the terms of the Stock Issuance Agreement, the Company issued 937,500 shares of its common stock, having a value of \$3,000,000 on August 7, 2015, which issuance is deemed paid in partial consideration for the execution and delivery of the Exclusive Channel Collaboration Agreement, dated August 10, 2015, between the Company and Intrexon. In connection with the transactions contemplated by the Stock Issuance Agreement, and pursuant to the Second Amendment to Registration Rights Agreement, the Company agreed to file a “resale” registration statement to register the shares issued under the Stock Issuance Agreement. The shares issued under the Stock Issuance Agreement need to be registered by January 1, 2016. Under that agreement, the Company will be obligated to use its reasonable best efforts to cause the “resale” registration statement to be declared effective as promptly as practicable after filing and to maintain the effectiveness of the registration statement until all securities therein are sold or are otherwise can be sold pursuant to Rule 144, without any restrictions.

On August 29, 2015, the Company, Synthetic Biomics, Inc. (“Biomics”) and Mark Pimentel, M.D. entered into an amendment (the “Amendment”) to the Stock Purchase Agreement they entered into dated December 3, 2013 (“Stock Purchase Agreement”), which accelerated the date upon which Dr. Pimentel can exchange his shares of common stock in Biomics for shares of the Company’s common stock. On August 29, 2015, Dr. Pimentel notified the Company of his intent to exchange all of the shares of common stock in Biomics owned by him for 1,350,000 shares of the Company’s common stock in accordance with the terms of the Stock Purchase Agreement, as amended. On August 31, 2015, the Company issued 1,350,000 shares of the Company’s common stock to Dr. Pimentel in exchange for all of the shares of common stock of Biomics held by Dr. Pimentel.

The foregoing descriptions of the Exclusive Channel Collaboration Agreement, the Stock Issuance Agreement and the Second Amendment to the Registration Rights Agreement are qualified in their entirety by reference to the Exclusive Channel Collaboration Agreement, the Stock Issuance Agreement and the Second Amendment to the Registration Rights Agreement, copies of each of which are attached as Exhibits 10.1, 10.2 and 10.3, respectively, to the Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on August 10, 2015. The foregoing descriptions of the Amendment and the Stock Purchase Agreement are qualified in its entirety by reference to the Amendment and Stock Purchase Agreement, respectively, copies of each of which are attached as Exhibit 10.5 to this Current Report on Form 8-K, and Exhibit 10.4 to the Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on December 10, 2013.

Item 3.02 Unregistered Sales of Equity Securities.

The information contained in Item 1.01 is hereby incorporated by reference.

On September 2, 2015, the Company issued 937,500 shares of its common stock to Intrexon in accordance with the terms of the Stock Issuance Agreement. The offer and issuance of the shares have not been registered under the Securities Act of 1933, as amended (the “Securities Act”), and therefore may not be offered or sold in the United States absent registration or an applicable exemption from registration requirements. For this issuance, the Company is relying on the exemption from federal registration under Section 4(a)(2) of the Securities Act based on the Company’s belief that the offer and sale of such shares does not involve a public offering as Intrexon is an “accredited investor” as defined under Section 501 promulgated under the Securities Act and no general solicitation has been involved in the offering.

On August 31, 2015, the Company issued 1,350,000 shares of its common stock to Dr. Pimentel in exchange for all of the shares of common stock in Biomics held by Dr. Pimentel. For this issuance, the Company intends to rely on the exemption from federal registration under Section 4(a)(2) of the Securities Act, based on the Company’s belief that the offer and sale of such shares of common stock has not and will not involve a public offering, as Dr. Pimentel is an “accredited investor” as defined under Section 501 promulgated under the Securities Act and no general solicitation has been involved in the offering.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No. Description

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| 10.1 | Exclusive Channel Collaboration Agreement dated August 10, 2015 between Synthetic Biologics, Inc. and Intrexon Corporation (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No.001-12584) filed with the Securities and Exchange Commission on August 10, 2015). |
| 10.2 | Stock Issuance Agreement dated August 10, 2015 between Synthetic Biologics, Inc. and Intrexon Corporation (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No.001-12584) filed with the Securities and Exchange Commission on August 10, 2015). |
| 10.3 | Second Amendment to Registration Rights Agreement dated August 10, 2015 between Synthetic Biologics, Inc. and Intrexon Corporation (incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K (File No.001-12584) filed with the Securities and Exchange Commission on August 10, 2015). |
| 10.4 | Stock Purchase Agreement dated December 3, 2013 by and among Synthetic Biologics, Inc., Synthetic Biomics, Inc. and Mark Pimentel, M.D. (incorporated by reference to Exhibit 10.4 to the Current Report on Form 8-K (File No.001-12584) filed with the Securities and Exchange Commission on December 10, 2013). |
| 10.5 | Amendment dated August 29, 2015 to the Stock Purchase Agreement dated December 3, 2013 by and among Synthetic Biologics, Inc., Synthetic Biomics, Inc. and Mark Pimentel, M.D. |

SIGNATURES

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

Dated: September 3, 2015 SYNTHETIC
BIOLOGICS, INC.
(Registrant)

By: /s/ Jeffrey Riley
Name: Jeffrey
Riley
Title: President
and Chief Executive
Officer

INDEX OF EXHIBITS

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