Synthetic Biologics, Inc.
Form 424B3
November 15, 2012

Filed Pursuant to Rule 424(b)(3)

Registration Statement No. 333-180562

November 15, 2012

PROSPECTUS SUPPLEMENT NO. 9

SYNTHETIC BIOLOGICS, INC.

112,573 Shares of Common Stock

This prospectus supplement amends and supplements our prospectus, dated July 26, 2012 relating to the resale, from time to time, of up to 112,573 shares of common stock of Synthetic Biologics, Inc. upon the exercise of warrants issued in July 2011 at an exercise price of $1.00 per share and warrants sold in our July 2010 offering at an exercise price of $1.32 per share. We will receive proceeds if the warrants are exercised for cash; to the extent we receive such proceeds, they will be used for working capital purposes.

Our common stock became eligible for trading on the NYSE MKT October 16, 2008. Our common stock is eligible for quotation on the NYSE MKT under the symbol “SYN”. The closing price of our stock on November 14, 2012 was $2.09.

This prospectus supplement is being filed to include the information set forth in the Current Report on Form 8-K filed on November 14, 2012, which is set forth below. This prospectus supplement should be read in conjunction with the prospectus dated July 26, 2012, supplement no. 1 dated August 9, 2012, prospectus supplement no. 2 dated August 15, 2012, prospectus supplement no. 3 dated August 15, 2012, prospectus supplement no. 4 dated September 12, 2012, prospectus supplement no. 5 dated October 9, 2012, prospectus supplement no. 6 dated October 17, 2012, prospectus supplement no. 7 dated November 1, 2012, and prospectus supplement no. 8 dated November 14, 2012 which are to be delivered with this prospectus supplement.

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 4 of the original prospectus for more information.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus or the prospectus to which it relates is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement No. 9 is November 15, 2012.

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K CURRENT REPORT

Pursuant to Section 13 or 15(d)

of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): November 14, 2012

SYNTHETIC BIOLOGICS, INC.

(Exact name of registrant as specified in its charter)

Nevada	1-12584	13-3808303
(State or other jurisdiction of incorporation)	(Commission File No.)	(IRS Employer Identification No.)

617 Detroit Street, Suite 100

Ann Arbor, Michigan 48104

(Address of principal executive offices) (Zip Code)

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

N/A

(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 2.02 – Results of Operations and Financial Condition.

On November 14, 2012, Synthetic Biologics, Inc., a Nevada corporation, (the “Registrant") issued the attached press release that included financial information for its third quarter ended September 30, 2012. A copy of the press release is attached as Exhibit 99.1 to this Report on Form 8-K. The information contained in the press release is being furnished to the Commission and shall not be deemed incorporated by reference into any of the Registrant’s registration statements or other filings with the Commission.

Item 9.01Financial Statements and Exhibits.

(d) Exhibits.

Exhibit 99.1 Press Release issued by Synthetic Biologics, Inc. dated November 14, 2012.

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.

SYNTHETIC BIOLOGICS, INC.

Date: November 14, 2012 By: /s/ C. Evan Ballantyne
Name: C. Evan Ballantyne
Title: Chief Financial Officer

EXHIBIT INDEX

Exhibit No .	Exhibits.
99.1	Press Release issued by Synthetic Biologics, Inc. dated November 14, 2012

Synthetic Biologics Reports Third Quarter 2012 Financial Results

-- Accelerating Development of Product Candidates to Address Serious Infectious Diseases --

For Immediate Release

Rockville, Md., November 14, 2012 – Synthetic Biologics, Inc. (NYSE MKT: SYN), a developer of synthetic biologics and innovative medicines for serious infections and diseases, today reported financial results for the three and nine months ended September 30, 2012 and summarized operational highlights.

Operational Highlights

Completed Successful Capital Raise

- Increased cash position with net proceeds of $10.1 million from the sale of approximately 6.8 million shares of common stock to new and existing investors in a private placement financing. Existing investors and an affiliate of R.J. Kirk constituted a majority of the participating investors in this transaction.

Ramping Up Infectious Disease Programs

- Entered into an agreement with Prev AbR LLC to acquire its clinical-stage and related beta-lactamase assets targeted for the prevention of *Clostridium difficile* (*C. diff*) infection, the leading cause of hospital acquired infections (HAI), that may occur secondary to treatment with antibiotics. CDI is a widespread and often drug resistant infectious disease, resulting in more than 337,000 hospitalizations, 30,000 deaths[1] and aggregate costs associated with stays in the hospital of $8.2 billion[2] in the U.S. during 2009.

- Initiated efforts to develop a monoclonal antibody (mAb) therapy for the treatment of *Acinetobacter*, a multidrug-resistant pathogen that is a leading cause of hospital-acquired infections. Our Intrexon collaboration enables us to have access to a comprehensive suite of proprietary mAb technologies including the mAbLogix™ and LEAP™ platforms, to develop fully human mAbs to neutralize acinetobacter pathogens. In addition to *Acinetobacter*, we expect to utilize Intrexon's technologies to target two other infectious disease indications.

- Engaged Lewis (Lew) Barrett, former Assistant Vice President, Established Products at Pfizer and Vice President Global Business Manager, Infectious Diseases at Wyeth Pharmaceuticals. As an advisor, Mr. Barrett will provide his expertise for the development and commercialization of infectious diseases.

- Appointed Charles B. Shoemaker, Ph.D., to serve as a member of our Scientific Advisory Board to aid in the research process for our infectious disease program. Dr. Shoemaker has over 30 years of experience as a scientist in academia, government agencies and the biotechnology industry. He also serves as Professor of Biomedical Sciences at Tufts University's Cummings School of Veterinary Medicine, where he develops treatments for the prevention and cure of toxins from *Clostridium difficile, E. coli*, anthrax and ricin, among other microbial toxins.

Strengthened Management Team

- Appointed Andrew Bristol, Ph.D. as Vice President of Research and Development, guiding the research development team in the mAbs drug development process. Dr. Bristol has over 20 years of experience in cancer research and drug development with a focus on monoclonal antibodies and cancer vaccines.

- Promoted Michael Kaleko, M.D., Ph.D. to Senior Vice President of Research Development, to further expand the synthetic biologic and infectious disease programs.

"We are making considerable strides in our infectious disease programs, with our progress to develop mAbs for infectious diseases and through our efforts to acquire a *C. diff* program. Utilizing Intrexon's proprietary mAb technologies, we have successfully initiated development for the first mAb candidate, *Acinetobacter*, a debilitating multi-drug resistant disease with a multi-billion dollar market opportunity. We expect to hit milestones in the mAb discovery phase for this disease during 2013. In order to quickly advance our infectious disease platform, we've strengthened our R&D management team and Scientific Advisory board, which has enhanced our position in the biotech space," said Jeffrey Riley, Chief Executive Officer of Synthetic Biologics.

"Our recent private placement has increased our cash position, allowing us to further advance our clinical programs, as well as develop our preclinical and discovery projects. We look forward to announcing our additional infectious disease targets, as well as the progress of our *C. diff* program," concluded Mr. Riley.

Three and Nine Months Ended September 30, 2012 Financial Results

As part of management's plan to streamline our focus, we sold the clinical reference lab on March 8, 2012. Laboratory revenues for the three and nine months ended September 30, 2012 and September 30, 2011 were charged to discontinued operations, resulting in no revenues for these periods. In addition, the gain on the sale of the clinical reference lab of $677,000 was included in discontinued operations for the nine months ended September 30, 2012.

General and administrative expenses were $1.1 million and $3.7 million for the three and nine months ended September 30, 2012, respectively, compared to $582,000 and $2.3 million for the same periods in 2011. These increases of 84% and 59%, respectively, are primarily the result of additional employee costs, the expansion of our investor relation activities and legal fees. Charges related to stock-based compensation were $279,000 and $1.1 million for the three and nine months ended September 30, 2012, respectively, compared to $51,000 and $861,000 for the same periods in 2011.

Research and development expenses were $763,000 and $1.7 million for the three and nine months ended September 30, 2012, respectively, compared to $289,000 and $801,000 for the same periods in 2011. These increases of 164% and 112%, respectively, are primarily the result of additional employee costs and increased program costs associated with our expanded pipeline, including the initiation of development efforts for a monoclonal antibody (mAb) therapy for the treatment of Acinetobacter infections and of our preclinical program for the development of a DNA-based therapy for the treatment of pulmonary arterial hypertension (PAH). Charges related to stock-based compensation were $116,000 and $238,000 for the three and nine months ended September 30, 2012, respectively, compared to $6,000 and $20,000 for the same periods in 2011.

Other income was $10,000 for the three months ended September 30, 2012, compared to other expense of $159,000 for the same period in 2011. Other income was $22,000 for the nine months ended September 30, 2012, compared to other expense of $1.7 million for the same period in 2011. Other expense for the nine months ended September 30, 2011 related to the estimated fair value of the warrants associated with the January 2011 and April 2011 financings, adjusted for the change in their fair value at September 30, 2012.

Cash at September 30, 2012 was $4.6 million compared to $6.7 million at December 31, 2011. As of October 31, 2012, we had approximately $14.2 million in cash.

About Synthetic Biologics, Inc.

Synthetic Biologics is a biotechnology company focused on the development of product candidates for serious infections and diseases. Synthetic Biologics is developing a biologic for the prevention of *C. diff* infection, and a series of monoclonal antibodies (mAbs) for the treatment of serious infectious diseases, including *Acinetobacter*. The Company is also developing a synthetic DNA-based therapy for the treatment of pulmonary arterial hypertension (PAH). In addition, the Company is developing a drug candidate for the treatment of relapsing-remitting multiple sclerosis (MS) and cognitive dysfunction in MS, and designing a clinical development pathway for the treatment of amyotrophic lateral sclerosis (ALS). For more information, please visit Synthetic Biologics' website at www.syntheticbiologics.com.

mAbLogix™ and LEAP™ are registered trademarks of Intrexon Corporation.

This release includes forward-looking statements on Synthetic Biologics' current expectations and projections about future events. In some cases forward-looking statements can be identified by terminology such as "may," "should," "potential," "continue," "expects," "anticipates," "intends," "plans," "believes," "estimates," and similar expressions. These statements are based upon current beliefs, expectations and assumptions and are subject to a number of risks and uncertainties, many of which are difficult to predict and include statements regarding our continued focus of our efforts in the field of synthetic biology and advancing our clinical programs and the expected size of the future market for sales of therapies for CDI and Acinetobacter. The forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those set forth or implied by any forward-looking statements. Important factors that could cause actual results to differ materially from those reflected in Synthetic Biologics' forward-looking statements include, among others, a failure to receive the necessary regulatory approvals for commercialization of our therapeutics, a failure of our clinical trials to be commenced or completed on time or to achieve desired results, a failure of our clinical trials to receive anticipated funding, a failure of gene therapy to receive market acceptance, a failure of our monoclonal antibodies for the treatment of infectious diseases to be successfully developed or commercialized, our inability to maintain our licensing agreements, including our agreement with Intrexon, our inability to successfully integrate new management, or a failure by us or our strategic partners to successfully commercialize products and other factors described in Synthetic Biologics'

report on Form 10-K/A for the year ended December 31, 2011 and any other filings with the SEC. The information in this release is provided only as of the date of this release, and Synthetic Biologics undertakes no obligation to update any forward-looking statements contained in this release on account of new information, future events, or otherwise, except as required by law.

- Financial Tables to Follow -

Synthetic Biologics, Inc. and Subsidiaries
(in thousands, except share data)

Condensed Consolidated Balance Sheets

	September 30, 2012 (Unaudited)	December 31, 2011 (Audited)
Assets		
Cash	$ 4,577	$ 6,678
Accounts receivable, net	122	405
Other	151	16
Assets of discontinued operations	-	23
Property and equipment, net	249	323
Long-term note receivable	700	-
Deposits and other assets	27	31
Total assets	$ 5,826	$ 7,476
Liabilities and Stockholders' Equity		
Current liabilities	$ 417	$ 417
Stockholders' equity	5,409	7,059
Total liabilities and stockholders' equity	$ 5,826	$ 7,476

Condensed Consolidated Statements of Operations (Unaudited)

	For the three months ended September 30,		For the nine months ended September 30,	
	2012	2011	2012	2011
Operating Costs and Expenses				
General and administrative	$1,073	$582	$3,717	$2,339
Research and development	763	289	1,696	801
Total operating costs and expenses	1,836	871	5,413	3,140
Loss from Continuing Operations	(1,836)	(871)	(5,413)	(3,140)
Other Income (Expense)				
Warrant expense	-	-	-	(1,492)
Change in fair value of warrant liability	-	(165)	-	(242)
Other income (expense)	10	6	22	55
Total other income (expense), net	10	(159)	22	(1,679)
Loss from Continuing Operations	(1,826)	(1,030)	(5,391)	(4,819)
Income (Loss) from Discontinued Operations	(104)	(68)	389	(145)
Net Loss and Comprehensive Loss	$(1,930)	$(1,098)	$(5,002)	$(4,964)
Net Income (Loss) Per Share - Basic and Dilutive				
Continuing Operations	$(0.05)	$(0.04)	$(0.16)	$(0.18)
Discontinued Operations	-	-	0.01	-
Net Loss Per Share	$(0.05)	$(0.04)	$(0.15)	$(0.18)
Weighted average number of common shares outstanding - Basic and Dilutive	33,383,226	28,089,492	32,801,415	27,075,730

For further information, please contact:

Kris Maly

Vice President, Corporate Communication

(734) 332-7800, Ext. 22

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[1] U.S. Department of Health & Human Services. Agency for Healthcare Research and Quality. January 25, 2012. Available at http://www.ahrq.gov/news/nn/nn012512.htm. Accessed November 5, 2012.

[2] Agency for Healthcare Research and Quality. Healthcare and Cost Utilization Project. Statistical Brief #124. *Clostridium difficile* Infections (CDI) in Hospital Stays, 2009. January 2012. Available at http://www.hcup-us.ahrq.gov/reports/statbriefs/sb124.pdf.