

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-Q/A
Amendment No. 1

(Mark One)

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

For the quarterly period ended June 30, 2012

OR

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

For the transition period from _____ to _____

Commission File Number: 1-12584

SYNTHETIC BIOLOGICS, INC.
(Name of small business issuer in its charter)

Nevada
(State or other jurisdiction of incorporation or organization)

13-3808303
(IRS Employer Identification Number)

617 Detroit Street, Suite 100
Ann Arbor, MI
(Address of principal executive offices)

48104
(Zip Code)

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

Securities registered pursuant to Section 12(b) of the Act:
Common Stock, \$0.001 par value per share

Securities registered pursuant to Section 12(g) of the Act:
None.

(Title of Class)

Indicate by check mark whether the issuer: (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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

Large accelerated filer ☐

Accelerated filer ☐

Non-Accelerated filer ☐ Smaller reporting company ☒
(Do not check if a smaller reporting company)

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

As of August 9, 2012, the registrant had 33,395,538 shares of common stock outstanding.

Explanatory Note

Synthetic Biologics, Inc. (the "Company") is filing this Amendment No. 1 on Form 10-Q/A (the "Amendment") to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2012 (the "Form 10-Q"), filed with the Securities and Exchange Commission on August 14, 2012 (the "Original Filing Date"), for the sole purpose of furnishing Exhibit 101 to the Form 10-Q in accordance with Rule 405 of Regulation S-T. Exhibit 101 consists of the following materials from the Form 10-Q, formatted in XBRL (eXtensible Business Reporting Language):

| | |
|---------|-------------------------------------|
| 101.INS | XBRL Instance Document |
| 101.SCH | XBRL Taxonomy Schema |
| 101.CAL | XBRL Taxonomy Calculation Linkbase |
| 101.DEF | XBRL Taxonomy Definition Linkbase |
| 101.LAB | XBRL Taxonomy Label Linkbase |
| 101.PRE | XBRL Taxonomy Presentation Linkbase |

No other changes have been made to the Form 10-Q. This Amendment speaks as of the Original Filing Date, does not reflect events that may have occurred subsequent to the Original Filing Date, and does not modify or update in any way disclosures made in the Form 10-Q.

Pursuant to Rule 406T of Regulation S-T, the interactive data files attached as Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

Item 6. Exhibits

| Exhibit Number | Exhibit Title |
|----------------|---------------|
|----------------|---------------|

| | |
|-----------|--|
| 31.1* | Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 31.2* | Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 |
| 32.1* | Certification of Chief Executive Officer pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 |
| 32.2* | Certification of Chief Financial Officer pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 |
| 101.INS** | XBRL Instance Document |
| 101.SCH** | XBRL Taxonomy Schema |
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* Previously filed as an exhibit to the Company's Form 10-Q for the period ended June 30, 2012 filed with the Securities and Exchange Commission on August 14, 2012.

** Furnished herewith. XBRL (eXtensible Business Reporting Language) information is furnished and not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections.

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.

SYNTHETIC BIOLOGICS, INC.

By: /s/ Jeffrey Riley
Jeffrey Riley
President and Chief Executive Officer
(Principal Executive Officer)
Date: September 11, 2012

By: /s/ C. Evan Ballantyne
C. Evan Ballantyne
Chief Financial Officer
(Principal Financial Officer)
Date: September 11, 2012
