

As filed with the Securities and Exchange Commission on October 17, 2022

Registration No. 333-

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

**FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

THERIVA BIOLOGICS, INC.

(Exact name of registrant as specified in its charter)

Nevada

*(State or other jurisdiction
of incorporation or organization)*

13-3808303

*(I.R.S. Employer
Identification Number)*

**9605 Medical Center Drive, Suite 270
Rockville, Maryland 20850
(301) 417-4364**

*(Address, including ZIP code, and telephone number, including
area code, of registrant's principal executive office)*

THERIVA BIOLOGICS, INC. 2020 STOCK INCENTIVE PLAN

(Full title of the Plan)

**Steven A. Shallcross
Chief Executive Officer and Chief Financial Officer
9605 Medical Center Drive, Suite 270
Rockville, Maryland 20850
(301) 417-4364**

(Name, address and telephone number of agent for service)

with copies to:

**Leslie Marlow, Esq.
Hank Gracin, Esq.
Patrick J. Egan, Esq.
Blank Rome LLP
1271 Avenue of the Americas
New York, New York 10020
(212) 885-5000**

(Name, address and telephone number)

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 ☐

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. ☐

EXPLANATORY NOTE

Theriva Biologics, Inc. (formerly known as Synthetic Biologics, Inc.), a Nevada corporation (the “Registrant” or the “Company”), filed with the Securities and Exchange Commission (the “Commission”) its Registration Statement on Form S-8 (Registration No. 333-249712) on October 28, 2020 (the “2020 Registration Statement”) pursuant to and in accordance with the requirements of Form S-8 for the purpose of registering under the Securities Act of 1933, as amended (the “Securities Act”), 4,000,000 (pre reverse stock split) shares of common stock, par value \$0.001 per share (the “Common Stock”), to be offered and sold under the Registrant’s 2020 Stock Incentive Plan (hereinafter referred to as the “Plan”). Pursuant to General Instruction E to Form S-8, the contents of the 2020 Registration Statement are incorporated into this Registration Statement by reference.

On July 25, 2022, the Registrant effected a one-for-ten reverse stock split, which reduced the number of shares reserved under the Plan to 400,000 shares. The Registrant is filing this Registration Statement on Form S-8 (the “Registration Statement”) to register an additional 6,600,000 (post reverse stock split) shares of Common Stock that were added to the Plan by a vote of the Registrant’s stockholders at the Registrant’s 2022 Annual Meeting of Stockholders that was held on September 30, 2022, whereby the stockholders approved Amendment No. 1 to the Plan. Amendment No. 1 to the Plan increased the total number of shares of Common Stock with respect to which awards may be granted under the Plan from 400,000 (post reverse stock split) shares of Common Stock to 7,000,000 (post reverse stock split) shares of Common Stock.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information*

Item 2. Registrant Information and Employee Plan Annual Information*

*The information specified in Item 1 and Item 2 of Part I of this Registration Statement on Form S-8 is omitted from this filing in accordance with the provisions of Rule 428 under the Securities Act of 1933, as amended (the “Securities Act”), and the introductory note to Part I of Form S-8. The documents containing the information specified in Part I will be delivered to the participants in the Plan as required by Rule 428. Such documents and the documents incorporated by reference in this Registration Statement pursuant to Item 3 of Part II of this Registration Statement, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item Incorporation of Documents By Reference.

3.

The Securities and Exchange Commission (the “Commission”) allows us to “incorporate by reference” the information we file with it which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the Commission will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the Commission under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), between the date of this prospectus and the termination of the offering:

- The Registrant’s Annual Report on Form 10-K (File No. 001-12584) for the fiscal year ended December 31, 2021 filed with the Commission on [March 16, 2022](#);
- The Registrant’s Quarterly Reports on Form 10-Q (File No. 001-12584) for the fiscal quarters ended March 31, 2022 and June 30, 2022 filed with the Commission on [May 16, 2022](#) and [August 11, 2022](#), respectively;
- The Registrant’s Current Reports on Form 8-K and Form 8-K/A (File No. 001-12584) filed with the Commission on [January 4, 2022](#), [March 11, 2022](#) (other than as indicated therein), [March 23, 2022](#) (other than as indicated therein), on [May 6, 2022](#) (Form 8-K/A), [May 10, 2022](#) (other than as indicated therein), [May 16, 2022](#) (other than as indicated therein), [July 14, 2022](#), [July 15, 2022](#), [July 25, 2022](#), [July 29, 2022](#), [August 3, 2022](#), [September 6, 2022](#) (other than as indicated therein), [September 6, 2022](#) (Form 8-K/A), [September 12, 2022](#), [September 27, 2022](#) (other than as indicated therein), [September 30, 2022](#) (other than as indicated therein), [October 3, 2022](#) and [October 12, 2022](#) (other than as indicated therein); and
- The description of the Registrant’s Common Stock set forth in its registration statement on Form 8-A12B, filed with the Commission on [June 20, 2007](#) (File No. 000-12584), as updated by the description of the Registrant’s Common Stock filed as Exhibit 4.4 to its Annual Report on Form 10-K (File No. 001-12584) for the fiscal year ended December 31, 2021 filed with the Commission on [March 16, 2022](#), including any amendments or reports filed for the purpose of updating such description.

All other reports and documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items) shall be deemed to be incorporated by reference in this Registration Statement and to be a part of this Registration Statement from the respective date of filing of each of those reports or documents until the filing of a post-effective amendment to this Registration Statement which indicates either that all securities offered by this Registration Statement have been sold or which deregisters all of the securities under this Registration Statement then remaining unsold.

Any statement contained in this Registration Statement or in a document incorporated or deemed to be incorporated by reference in this Registration Statement shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in this Registration Statement or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this Registration Statement modifies or supersedes that statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item Description of Securities.

4.

Not applicable

Item Interests of Named Experts and Counsel.
5.

Not applicable.

Item Indemnification of Directors and Officers.
6.

Section 78.138 of the Nevada Revised Statutes provides that a director or officer is not individually liable to the Registrant or its stockholders or creditors for any damages as a result of any act or failure to act in his capacity as a director or officer unless it is proven that (1) his act or failure to act constituted a breach of his fiduciary duties as a director or officer and (2) his breach of those duties involved intentional misconduct, fraud or a knowing violation of law.

This provision is intended to afford directors and officers protection against and to limit their potential liability for monetary damages resulting from suits alleging a breach of the duty of care by a director or officer. As a consequence of this provision, the Registrant's stockholders will be unable to recover monetary damages against directors or officers for actions taken by them that may constitute negligence or gross negligence in performance of their duties unless such conduct falls within one of the foregoing exceptions. The provision, however, does not alter the applicable standards governing a director's or officer's fiduciary duty and does not eliminate or limit the right of the Registrant or any of its stockholders to obtain an injunction or any other type of non-monetary relief in the event of a breach of fiduciary duty.

The Registrant's Articles of Incorporation, as amended, and amended and restated bylaws provide for indemnification of directors, officers, employees or agents of the Registrant to the fullest extent permitted by Nevada law (as amended from time to time). Section 78.7502 of the Nevada Revised Statutes provides that such indemnification may only be provided if the person acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interest of the Registrant and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful.

Item 7. Exemption from Registration Claimed

Not applicable.

Item 8. Exhibits

Exhibit Number	Exhibit Title
4.1	Certificate of Incorporation, as amended (Incorporated by reference to (i) Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed October 16, 2008 , File No. 001-12584, (ii) Exhibit 3.1 of the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2001 filed August 14, 2001 , File No. 001-12584; and (iii) Exhibits 3.1, 4.1 and 4.2 of the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 1998 filed August 14, 1998, File No. 001-12584.)
4.2	Articles of Merger (Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed October 19, 2009, File No. 001-12584.)
4.3	Certificate of Merger filed with the Secretary of State of Delaware (Incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K filed October 19, 2009, File No. 001-12584.)
4.4	Articles of Incorporation filed with the Nevada Secretary of State (Incorporated by reference to Exhibit 3.3 of the Registrant's Current Report on Form 8-K filed October 19, 2009, File No. 001-12584.)

- [4.5](#) [Amended and Restated Bylaws Adopted and Effective October 12, 2022 \(Incorporated by reference to Exhibit 3.3 of the Registrant's Current Report on Form 8-K filed October 12, 2022, File No. 001-12584.\)](#)
- [4.6](#) [Certificate of Amendment to Articles of Incorporation \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed February 16, 2012, File No. 001-12584.\)](#)
- [4.7](#) [Certificate of Amendment to Certificate of Incorporation \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed May 18, 2015, File No. 001-12584.\)](#)
- [4.8](#) [Certificate of Amendment to Certificate of Incorporation \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed September 8, 2017, File No. 001-12584.\)](#)
- [4.9](#) [Certificate of Change Pursuant to NRS 78.209 \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed August 13, 2018, File No. 001-12584.\)](#)
- [4.10](#) [Certificate of Amendment to Articles of Incorporation \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed September 26, 2018, File No. 001-12584.\)](#)
- [4.11](#) [Certificate of Change Pursuant to NRS 78.209 \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed July 25, 2022, File No. 001-12584.\)](#)
- [4.12](#) [Certificate of Amendment to Articles of Incorporation \(Incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed October 12, 2022, File No. 001-12584.\)](#)
- [4.13](#) [Certificate of Change Pursuant to NRS 78.209 \(Incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K filed October 12, 2022, File No. 001-12584.\)](#)
- [4.14](#) [Theriva Biologics, Inc. 2020 Stock Incentive Plan \(Incorporated by reference to Appendix A to the Registrant's Definitive Proxy Statement filed with the Securities and Exchange Commission on August 4, 2020\).](#)
- [4.15](#) [Form of Incentive Stock Option Grant Agreement \(Incorporated by reference to Exhibit 4.11 of the Registrant's Registration Statement on Form S-8 \(File No. 333-249712\) filed October 28, 2020.\)](#)
- [4.16](#) [Form of Nonqualified Stock Option Grant Agreement \(Incorporated by reference to Exhibit 4.12 of the Registrant's Registration Statement on Form S-8 \(File No. 333-249712\) filed October 28, 2020.\)](#)
- [4.17](#) [Form of Restricted Stock Unit Award Agreement \(Incorporated by reference to Exhibit 4.13 of the Registrant's Registration Statement on Form S-8 \(File No. 333-249712\) filed October 28, 2020.\)](#)
- [4.18](#) [Amendment No. 1 to the Theriva Biologics, Inc. 2020 Stock Incentive Plan \(incorporated by reference to Appendix C to the Registrant's Definitive Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on August 16, 2022\)](#)
- [5.1*](#) [Opinion of Parsons Behle & Latimer regarding the legality of the shares of common stock being registered](#)
- [23.1*](#) [Consent of BDO USA, LLP](#)
- [23.2*](#) [Consent of KPMG Auditores, S.L.](#)
- [23.3*](#) [Consent of Parsons Behle & Latimer \(included in Exhibit 5.1 hereof\)](#)

*Filed herewith

Item Undertakings.

9.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

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(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in this registration statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the registration statement is on Form S-8 and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Securities Exchange Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(5) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to existing provisions or arrangements whereby the Registrant may indemnify a trustee, officer or controlling person of the Registrant against liabilities arising under the Securities Act, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a trustee, officer or controlling person of the Registrant in the successful

defense of any action, suit or proceeding) is asserted by such trustee, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rockville and State of Maryland, on the 17th day of October, 2022.

THERIVA BIOLOGICS, INC.

By: /s/ Steven A. Shallcross

Name: Steven A. Shallcross

Title: Chief Executive Officer and
Chief Financial Officer

POWER OF ATTORNEY

Each of the undersigned, whose signature appears below, hereby constitutes and appoints Steven A. Shallcross as his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution for him and in his name, place and stead, in any and all capacities, to sign any or all amendments to this Registration Statement, whether pre-effective or post-effective, and to file the same with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, or his substitute full power and authority to do and perform each and every act and thing necessary or appropriate to be done with respect to this Registration Statement or any amendments hereto in the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, or any of them, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act, this Registration Statement on Form S-8 has been signed below by the following persons, in the capacities and on the date or dates indicated:

Signature	Title	Date
<u>/s/ Steven A. Shallcross</u> Steven A. Shallcross	Chief Executive Officer and Chief Financial Officer (Principal Executive Officer and Principal Financial and Accounting Officer) Director	October 17, 2022
<u>/s/ Jeffrey J. Kraws</u> Jeffrey J. Kraws	Chairman of the Board of Directors	October 17, 2022
<u>/s/ John Monahan</u> John Monahan	Director	October 17, 2022
<u>/s/ Jeffrey Wolf</u>	Director	October 17, 2022

