

Mark Joseph Nejme
P.O. Box 589
Clifton, New Jersey 07012
Telephone 732-995-3914
Email research@warrantwire.com
Plaintiff self represented

**UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA**

MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ APPENDIX OF EXHIBITS VOLUME 2 EXHIBITS N THROUGH T
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SUBMITTED WITH VERIFIED COMPLAINT AND EMERGENCY MOTION

Bound separately under District of Nevada Local Rule IA 10-3 i

Appendix Volume 2 Contents

Exhibit	Description
N	Stockholder demands, notices, enclosures, and delivery evidence
O	June 24 2026 Blank Rome response
P	Redacted T Mobile carrier record or call log
Q	Redacted broker ownership and voting proof
R	December 15 2025 video URL and verified transcript
S	May 2025 data event and public offering materials
T	Capitalization and ATM filing excerpts

Final page-count check. Count this completed bound volume before filing. If it exceeds 250 pages, divide it into additional volumes and revise the volume labels and contents pages.

Mark Joseph NejmeH
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Email: research@warrantwire.com
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**UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA**

MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ EXHIBIT N TO VERIFIED COMPLAINT AND EMERGENCY MOTION
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EXHIBIT N

**Two principal written stockholder demand and notice submissions, enclosures,
certified-mail receipts, and available delivery confirmations.**

Place the exhibit identified above immediately behind this cover sheet.

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**UNITED STATES DISTRICT COURT
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MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ EXHIBIT O TO VERIFIED COMPLAINT AND EMERGENCY MOTION
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EXHIBIT O

**Blank Rome letter dated June 24, 2026 to Paul Bernhardt, with private address and
personal email redacted from the public copy.**

Place the exhibit identified above immediately behind this cover sheet.

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**UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA**

MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ EXHIBIT P TO VERIFIED COMPLAINT AND EMERGENCY MOTION
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EXHIBIT P

Redacted T-Mobile carrier record or device call log corroborating the post-meeting connection; unrelated calls and unnecessary identifiers removed.

Place the exhibit identified above immediately behind this cover sheet.

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**UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA**

MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ EXHIBIT Q TO VERIFIED COMPLAINT AND EMERGENCY MOTION
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EXHIBIT Q

**Redacted broker statements and voting confirmations establishing Mark NejmeH's
continuous ownership and vote against Proposal 5.**

Place the exhibit identified above immediately behind this cover sheet.

Mark Joseph NejmeH
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Plaintiff, self-represented

**UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA**

MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ EXHIBIT R TO VERIFIED COMPLAINT AND EMERGENCY MOTION
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EXHIBIT R

December 15, 2025 YouTube video link and a transcript excerpt verified by Mark NejmeH; the video is a same-day account, not a recording of the meeting, and the recording controls over the transcript.

Place the exhibit identified above immediately behind this cover sheet.

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Plaintiff, self-represented

**UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA**

MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ EXHIBIT S TO VERIFIED COMPLAINT AND EMERGENCY MOTION
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EXHIBIT S

**May 2025 offering materials and May 7 data-event disclosures cited in paragraphs
66 through 74 of the complaint.**

Place the exhibit identified above immediately behind this cover sheet.

Exhibit S SEC EDGAR Source Index

May 7, 2025 VIRAGE data-event disclosures and May 8, 2025 registered public-offering materials.

Date	Document	Direct SEC source
May 7, 2025	Form 8-K, press release and VIRAGE presentation	https://www.sec.gov/Archives/edgar/data/894158/000110465925045309/
May 8, 2025	Final prospectus	https://www.sec.gov/Archives/edgar/data/894158/000110465925045934/tm2514445d1_424b5.htm
May 8, 2025	Offering Form 8-K and Exhibits 1.1, 4.1, 4.2, 10.1, 99.1 and 99.2	https://www.sec.gov/Archives/edgar/data/894158/000110465925046170/

The pages that follow are copies or clearly identified excerpts of documents filed by Theriva Biologics, Inc. with the Securities and Exchange Commission. EDGAR is the authoritative source.

The short Forms 8-K, press releases and presentation are reproduced in full. The prospectus and longer agreements are clearly identified excerpts keyed to the allegations in paragraphs 66 through 74; complete originals remain available at the direct SEC links.

UNITED STATES
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): May 7, 2025

THERIVA BIOLOGICS, INC.

(Exact name of registrant as specified in its charter)

Nevada

(State or other jurisdiction of
incorporation)

001-12584

(Commission File No.)

13-3808303

(IRS Employer Identification
No.)

**9605 Medical Center Drive, Suite 270
Rockville, Maryland 20850**

(Address of principal executive offices and zip code)

(301) 417-4364

Registrant's telephone number, including area code

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 (see General Instruction A.2. below):

- .. Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- .. Soliciting material pursuant to Rule 14a-12(b) 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))

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, par value \$0.001 per share	TOVX	NYSE American

Indicate by check mark whether the registrant is an emerging growth company as defined in in Rule 405 of the Securities Act of 1933 (17 CFR §230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2 of this chapter).

Emerging growth company ..

If an emerging growth company, indicate by checkmark 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. ..

Item 7.01. Regulation FD Disclosure.

On May 7, 2025, Theriva Biologics, Inc. (the “Company”) issued a press release announcing positive topline outcomes from the VIRAGE Phase 2b clinical trial evaluating the Company’s lead product candidate VCN-01 (zabulugene almadenorepvec) plus standard-of-care (SoC) chemotherapy gemcitabine/nab-paclitaxel as a first line therapy for patients with metastatic pancreatic ductal adenocarcinoma (PDAC) for whom gemcitabine/nab-paclitaxel is the recommended first-line treatment option. VCN-01 is a systemically-administered, tumor selective, stroma-degrading oncolytic adenovirus that has been granted Orphan Drug Designation and Fast Track Designation by the U.S. Food and Drug Administration (FDA) for the treatment of pancreatic cancer.

The analysis of the VIRAGE trial (see “About VIRAGE” below) includes data for first-line treatment of 96 newly-diagnosed metastatic PDAC patients:

- In the primary endpoint analysis, the 48 patients treated with at least one dose of gemcitabine/nab-paclitaxel SoC had a median overall survival (OS) of 8.6 months, while the 48 patients treated with VCN-01 followed by at least one dose of gemcitabine/nab-paclitaxel SoC had a median OS of 10.8 months [Hazard Ratio (HR) = 0.57, 95% CI 0.34-0.96, p=0.0546].
- The improvements in OS in the VCN-01+SoC treatment arm compared to the SoC control arm were reflected in increased progression free survival (PFS) [median PFS 7.0 vs 4.6 months; HR = 0.55, 95% CI 0.34-0.88, p= 0.0105].
- The median duration of response (DoR) was 5.4 months (n=15) in the SoC control arm, while the median DoR in the VCN-01+SoC treatment arm was doubled to 11.2 months (n=19, HR = 0.22, 95% CI 0.08-0.62, p=0.0035).

The increase in OS was greater for patients who received 2 doses of VCN-01 and 4 or more cycles of gemcitabine/nab-paclitaxel SoC (n=34) compared with patients who received 4 or more cycles of gemcitabine/nab-paclitaxel SoC (n=29) [median OS 14.8 and 11.6 months respectively; HR=0.44, 95% CI: 0.21-0.92, p=0.046], suggesting that the second dose of VCN-01 (administered 3 months after the first dose) provides a meaningful additional benefit in this treatment subgroup.

The adverse event (“AE”) VCN-01 profile was consistent with that observed in prior clinical trials. The most common VCN-01 related AEs (pyrexia, flu-like illness, vomiting, nausea, and elevated transaminases) were transient and reversible. These AEs were observed to be less frequent and of reduced CTCAE grade after the second VCN-01 dose (administered on day ~92) compared to the first VCN-01 dose (administered on day 1). A review by an Independent Data Monitoring Committee noted that the overall type and number of AEs in the VCN-01 treatment group was as expected for the pancreatic cancer population, the duration of treatment, and the administration of an oncolytic virus.

In addition, the Company will host an event on May 7, 2025 to review and discuss the data from the VIRAGE trial . In connection with the event, the Company intends to discuss the presentation which is furnished as Exhibit 99.2 to this Current Report on Form 8-K.

The information in this Item 7.01 and in the press release furnished as Exhibit 99.1 and the presentation furnished as Exhibit 99.2 to this Current Report on Form 8-K shall not be deemed to be “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section or Sections 11 and 12(a)(2) of the Securities Act of 1933, as amended and shall not be incorporated by reference into any filing with the U.S. Securities and Exchange Commission made by the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. The press release furnished as Exhibit 99.1 and the presentation furnished as Exhibit 99.2 to this Current Report on Form 8-K includes “safe harbor” language pursuant to the Private Securities Litigation Reform Act of 1995, as amended, indicating that certain statements contained therein are “forward-looking” rather than historical.

Item 8.01. Other Events.

On May 7, 2025, the Company issued a press release announcing positive topline outcomes from the VIRAGE Phase 2b clinical trial evaluating the Company's lead product candidate VCN-01 (zabulogene almadenorepvec) plus standard-of-care (SoC) chemotherapy gemcitabine/nab-paclitaxel as a first line therapy for patients with metastatic pancreatic ductal adenocarcinoma (PDAC) for whom gemcitabine/nab-paclitaxel is the recommended first-line treatment option. VCN-01 is a systemically-administered, tumor selective, stroma-degrading oncolytic adenovirus that has been granted Orphan Drug Designation and Fast Track Designation by the U.S. Food and Drug Administration (FDA) for the treatment of pancreatic cancer.

The analysis of the VIRAGE trial (see "About VIRAGE" below) includes data for first-line treatment of 96 newly-diagnosed metastatic PDAC patients:

- In the primary endpoint analysis, the 48 patients treated with at least one dose of gemcitabine/nab-paclitaxel SoC had a median overall survival (OS) of 8.6 months, while the 48 patients treated with VCN-01 followed by at least one dose of gemcitabine/nab-paclitaxel SoC had a median OS of 10.8 months [Hazard Ratio (HR) = 0.57, 95% CI 0.34-0.96, p=0.0546].
- The improvements in OS in the VCN-01+SoC treatment arm compared to the SoC control arm were reflected in increased progression free survival (PFS) [median PFS 7.0 vs 4.6 months; HR = 0.55, 95% CI 0.34-0.88, p= 0.0105].
- The median duration of response (DoR) was 5.4 months (n=15) in the SoC control arm, while the median DoR in the VCN-01+SoC treatment arm was doubled to 11.2 months (n=19, HR = 0.22, 95% CI 0.08-0.62, p=0.0035).

The increase in OS was greater for patients who received 2 doses of VCN-01 and 4 or more cycles of gemcitabine/nab-paclitaxel SoC (n=34) compared with patients who received 4 or more cycles of gemcitabine/nab-paclitaxel SoC (n=29) [median OS 14.8 and 11.6 months respectively; HR=0.44, 95% CI: 0.21-0.92, p=0.046], suggesting that the second dose of VCN-01 (administered 3 months after the first dose) provides a meaningful additional benefit in this treatment subgroup.

The adverse event ("AE") VCN-01 profile was consistent with that observed in prior clinical trials. The most common VCN-01 related AEs (pyrexia, flu-like illness, vomiting, nausea, and elevated transaminases) were transient and reversible. These AEs were observed to be less frequent and of reduced CTCAE grade after the second VCN-01 dose (administered on day ~92) compared to the first VCN-01 dose (administered on day 1). A review by an Independent Data Monitoring Committee noted that the overall type and number of AEs in the VCN-01 treatment group was as expected for the pancreatic cancer population, the duration of treatment, and the administration of an oncolytic virus.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit Number	Description
99.1	Press Release issued by Theriva Biologics, Inc., dated May 7, 2025
99.2	Presentation of VIRAGE trial data
104	Cover Page Interactive Data File (embedded within the XBRL document)

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: May 7, 2025

THERIVA BIOLOGICS, INC.

By: /s/ Steven A. Shallcross

Name Steven A. Shallcross

:

Title: Chief Executive Officer and Chief Financial Officer



Theriva™ Biologics Announces Primary Endpoints for Efficacy and Safety Achieved in VIRAGE Phase 2b Clinical Trial of VCN-01 with Gemcitabine/nab-Paclitaxel in Newly-Diagnosed Metastatic Pancreatic Cancer Patients

- Patients treated with VCN-01 (zabilugene almadenorepvec) plus gemcitabine/nab-paclitaxel standard-of-care (SoC) chemotherapy had increased overall survival, progression free survival, and duration of response compared to patients treated with gemcitabine/nab-paclitaxel SoC -
- VCN-01 was well-tolerated, with transient and reversible adverse events (AEs), meeting primary safety endpoint -
- Greater differences between the treatment arms were observed in patients receiving 2 doses of VCN-01 -
- Data to be reviewed during a Key Opinion Leader webinar Featuring Dr. Manuel Hidalgo Medina and Dr. Mike Pishvaian on Wednesday May 7th, 2025 at 0800 US EDT -

Rockville, MD, May 07, 2025 – Theriva™ Biologics (NYSE American: TOVX), (“Theriva” or the “Company”), a diversified clinical-stage company developing therapeutics designed to treat cancer and related diseases in areas of high unmet need, today announced positive topline outcomes from the VIRAGE Phase 2b clinical trial evaluating the Company’s lead product candidate VCN-01 (zabilugene almadenorepvec) plus standard-of-care (SoC) chemotherapy gemcitabine/nab-paclitaxel as a first line therapy for patients with metastatic pancreatic ductal adenocarcinoma (PDAC) for whom gemcitabine/nab-paclitaxel is the recommended first-line treatment option. VCN-01 is a systemically-administered, tumor selective, stroma-degrading oncolytic adenovirus that has been granted Orphan Drug Designation and Fast Track Designation by the U.S. Food and Drug Administration (FDA) for the treatment of pancreatic cancer.

The analysis of the VIRAGE trial (see “About VIRAGE” below) includes data for first-line treatment of 96 newly-diagnosed metastatic PDAC patients:

- In the primary endpoint analysis, the 48 patients treated with at least one dose of gemcitabine/nab-paclitaxel SoC had a median overall survival (OS) of 8.6 months, while the 48 patients treated with VCN-01 followed by at least one dose of gemcitabine/nab-paclitaxel SoC had a median OS of 10.8 months [Hazard Ratio (HR) = 0.57, 95% CI 0.34-0.96, p=0.0546].
- The improvements in OS in the VCN-01+SoC treatment arm compared to the SoC control arm were reflected in increased progression free survival (PFS) [median PFS 7.0 vs 4.6 months; HR = 0.55, 95% CI 0.34-0.88, p= 0.0105].
- The median duration of response (DoR) was 5.4 months (n=15) in the SoC control arm, while the median DoR in the VCN-01+SoC treatment arm was doubled to 11.2 months (n=19, HR = 0.22, 95% CI 0.08-0.62, p=0.0035).

The increase in OS was greater for patients who received 2 doses of VCN-01 and 4 or more cycles of gemcitabine/nab-paclitaxel SoC (n=34) compared with patients who received 4 or more cycles of gemcitabine/nab-paclitaxel SoC (n=29) [median OS 14.8 and 11.6 months respectively; HR=0.44, 95% CI: 0.21-0.92, p=0.046], suggesting that the second dose of VCN-01 (administered 3 months after the first dose) provides a meaningful additional benefit in this treatment subgroup.

“The exciting topline data from the VIRAGE Phase 2b trial demonstrate the potential opportunity for VCN-01 to benefit metastatic PDAC patients treated with gemcitabine/nab-paclitaxel SoC chemotherapy,” said Steven A. Shallcross, Chief Executive Officer of Theriva Biologics. “The significantly reduced hazard ratios for survival parameters in the VCN-01 treatment group provide compelling evidence that VCN-01 in combination with gemcitabine/nab-paclitaxel may extend the lives of metastatic PDAC patients. These data, combined with recent advice from the U.S. FDA and the European Medical Agency, are expected to facilitate engagement with industry partners and enable the design of a Phase 3 confirmatory trial that, if successful, may deliver an important new therapeutic option for patients suffering this rapidly fatal disease.”



As previously reported, the VCN-01 adverse event (AE) profile was consistent with that observed in prior clinical trials. The most common VCN-01 related AEs (pyrexia, flu-like illness, vomiting, nausea, and elevated transaminases) were transient and reversible. These AEs were observed to be less frequent and of reduced CTCAE grade after the second VCN-01 dose (administered on day ~92) compared to the first VCN-01 dose (administered on day 1). A review by an Independent Data Monitoring Committee noted that the overall type and number of AEs in the VCN-01 treatment group was as expected for the pancreatic cancer population, the duration of treatment, and the administration of an oncolytic virus.

Theriva will host a live virtual event to review and discuss the data from the VIRAGE trial of VCN-01 on Wednesday, May 7th 2025, 8:00 AM EDT. The virtual event will feature eminent pancreatic cancer clinician/researchers Dr. Manuel Hidalgo Medina MD PhD (Chief, Division of Hematology and Medical Oncology, Weill Cornell Medical College and Attending Physician, New York-Presbyterian Hospital) and Dr. Mike Pishvaian MD PhD (Director of Gastrointestinal, Developmental Therapeutics and Clinical Research Programs for the Johns Hopkins Kimmel Cancer Center and Associate Professor at the School of Medicine). To register for the event, click [HERE](#).

About Pancreatic Ductal Adenocarcinoma

Cancer of the pancreas consists of two main histological types: cancer that arises from the ductal (exocrine) cells of the pancreas or, much less often, cancers may arise from the endocrine compartment of the pancreas. Pancreatic ductal adenocarcinoma ("PDAC") accounts for more than 90% of all pancreatic tumors. It can be located either in the head of the pancreas or in the body/tail. Pancreatic cancer usually metastasizes to the liver and peritoneum. Other less common metastatic sites are the lungs, brain, kidney and bone. In its early stages, pancreatic cancer does not typically result in any characteristic symptoms, so in most cases it is diagnosed in its late stages (locally advanced non-metastatic or metastatic disease) when surgical resection and possibly curative treatment is not possible. It is generally assumed that only 10% of cases are resectable at presentation, whereas 30-40% of patients are diagnosed at local advanced/unresectable stage and 50-60% present with distant metastases.

About VIRAGE

VIRAGE is a two-arm, Phase 2b open-label, randomized, controlled, multicenter clinical trial in patients with histologically confirmed, newly-diagnosed metastatic PDAC. Patients were enrolled at 5 sites in the U.S. and 9 sites in Spain. In both the control and VCN-01 (zabylugene almadenorepvec) treatment arms, patients received gemcitabine/nab-paclitaxel standard-of-care chemotherapy in repeated 28-day cycles until disease progression. In the VCN-01 treatment arm only, patients were also administered intravenous VCN-01 seven-days prior to starting the first and fourth cycles of gemcitabine/nab-paclitaxel treatment (study days 1 and ~92 respectively). Primary endpoints for the trial include overall survival and VCN-01 safety/tolerability. Additional endpoints include progression free survival, duration of response, and measures of VCN-01 biodistribution, replication, and immune response. The study was designed with 80% power to detect a HR of 0.65 for overall survival with a 1-sided alpha of 0.05 (2-sided alpha 0.1). Reported p-values are for 2-sided statistical analysis using the log rank test. More information about the trial is available on [Clinicaltrials.gov](https://clinicaltrials.gov) (NCT05673811), through the Spanish Clinical Trials Registry and European Union Drug Regulating Authorities Clinical Trials Database (EudraCT Number: 2022-000897-24).

About VCN-01

VCN-01 (zabylugene almadenorepvec) is a systemically administered oncolytic adenovirus designed to selectively and aggressively replicate within tumor cells and degrade the tumor stroma that serves as a significant physical and immunosuppressive barrier to cancer treatment. This unique mode-of-action enables VCN-01 to exert multiple antitumor effects by (i) selectively infecting and lysing tumor cells; (ii) enhancing the access and perfusion of co-administered chemotherapy products; and (iii) increasing tumor immunogenicity and exposing the tumor to the patient's immune system and co-administered immunotherapy products. Systemic administration enables VCN-01 to exert its actions on both the primary tumor and metastases. VCN-01 has been administered to over 140 patients to date in clinical trials of different cancers, including PDAC (in combination with chemotherapy), head and neck squamous cell carcinoma (with an immune checkpoint inhibitor), ovarian cancer (with CAR-T cell therapy), colorectal cancer, and retinoblastoma (by intravitreal injection). More information on these clinical trials is available at [Clinicaltrials.gov](https://clinicaltrials.gov).



About Theriva™ Biologics, Inc.

Theriva™ Biologics (NYSE American: TOVX), is a diversified clinical-stage company developing therapeutics designed to treat cancer and related diseases in areas of high unmet need. The Company's subsidiary Theriva Biologics, S.L., has been developing a new oncolytic adenovirus platform designed for intravenous (IV), intravitreal and antitumoral delivery to trigger tumor cell death, improve access of co-administered cancer therapies to the tumor, and promote a robust and sustained anti-tumor response by the patient's immune system. The Company's lead clinical-stage product candidate is VCN-01 (zabilugene almadenorepvec), an oncolytic adenovirus designed to replicate selectively and aggressively within tumor cells, and to degrade the tumor stroma barrier that serves as a significant physical and immunosuppressive barrier to cancer treatment. Additional clinical stage assets include (1) SYN-004 (ribaxamase) which is designed to degrade certain commonly used IV beta-lactam antibiotics within the gastrointestinal (GI) tract to prevent microbiome damage, thereby limiting overgrowth of pathogenic organisms such as VRE (vancomycin resistant Enterococci) and reducing the incidence and severity of acute graft-versus-host-disease (aGVHD) in allogeneic hematopoietic cell transplant (HCT) recipients); and (2) SYN-020, a recombinant oral formulation of the enzyme intestinal alkaline phosphatase (IAP) produced under cGMP conditions and intended to treat both local GI and systemic diseases. For more information, please visit Theriva Biologics' website at www.therivabio.com.

Forward-Looking Statement

This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. 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, and include statements regarding the exciting topline data from the VIRAGE Phase 2b trial demonstrating the potential opportunity for VCN-01 to benefit metastatic PDAC patients treated with gemcitabine/nab-paclitaxel SoC chemotherapy; the significantly reduced hazard ratios for survival parameters in the VCN-01 treatment group providing compelling evidence that VCN-01 in combination with gemcitabine/nab-paclitaxel may extend the lives of metastatic PDAC patients; and the data, combined with recent advice from the U.S. FDA and the European Medical Agency, being expected to facilitate engagement with industry partners and enable the design of a Phase 3 confirmatory trial that, if successful, may deliver an important new therapeutic option for patients suffering this rapidly fatal disease. These forward-looking statements are based on management's expectations and assumptions as of the date of this press release and are subject to a number of risks and uncertainties, many of which are difficult to predict that could cause actual results to differ materially from current expectations and assumptions from those set forth or implied by any forward-looking statements. Important factors that could cause actual results to differ materially from current expectations include, among others, the ability of VCN-01 to benefit metastatic PDAC patients treated with gemcitabine/nab-paclitaxel; the ability of VCN-01 in combination with gemcitabine/nab-paclitaxel to extend the lives of metastatic PDAC patients; the data facilitating engagement with industry partners; the ability to confirm the potential therapeutic benefits of VCN-01 in a Phase 3 clinical trial and delivering an important new therapeutic option for metastatic PDAC patients; the Company's ability to reach clinical milestones when anticipated including enrolling the expected number of patients in each trial; the Company's product candidates, including VCN-01, demonstrating safety and effectiveness, as well as results that are consistent with prior results; the ability to complete clinical trials on time and achieve the desired results and benefits, continuing clinical trial enrollment as expected; the ability to obtain regulatory approval for commercialization of product candidates or to comply with ongoing regulatory requirements, regulatory limitations relating to the Company's ability to promote or commercialize their product candidates for the specific indications, acceptance of product candidates in the marketplace and the successful development, marketing or sale of the Company's products, developments by competitors that render such products obsolete or non-competitive, the Company's ability to maintain license agreements, the continued maintenance and growth of the Company's and VCN's patent estate, the ability to continue to remain well financed, and other factors described in the Company's Annual Report on Form 10-K for the year ended December 31, 2024 and its other filings with the SEC, including subsequent periodic reports on Forms 10-Q and current reports on Form 8-K. The information in this release is provided only as of the date of this release, and Theriva 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.

For further information, please contact:

Investor Relations:
Kevin Gardner
LifeSci Advisors, LLC
kgardner@lifesciadvisors.com
617-283-2856

Source: Theriva Biologics, Inc.

VIRAGE Phase 2b
Clinical Trial of VCN-01 in
Pancreatic Cancer

07 May 2025



FORWARD LOOKING STATEMENTS

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. 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, and include statements regarding oncolytic viruses (OVs) being promising cancer therapeutics; the multiple potential value opportunities for VCN-01; the regulatory status expected to facilitate VCN-01 development; potential access to a priority review voucher; the therapeutic potential of VCN-01 and other Theriva OVs; the ability of VCN-01 and other Theriva OVs to overcome key OV challenges; the potential of VCN-01 to enable immuno-oncology therapies in refractory tumors; the clinical advancement of VCN-01 and other Theriva OVs in diverse cancer indications (including pancreatic ductal adenocarcinoma, head and neck cancer, ovarian cancer, colorectal cancer, and retinoblastoma) and the projected milestones. Important factors that could cause actual results to differ materially from current expectations include, among others, the Company’s ability to enroll patients as planned and reach clinical trial milestones when anticipated; the Company’s ability to complete clinical trials on time and achieve the desired results and benefits; the Company’s product candidates demonstrating safety and effectiveness, including positive clinical data that demonstrates VCN-01 may lead to improved clinical outcomes for patients; the Company’s ability to obtain regulatory approval for commercialization of product candidates or to comply with ongoing regulatory requirements; regulatory limitations relating to the Company’s ability to promote or commercialize their product candidates for the specific indications; acceptance of product candidates in the marketplace and the successful development, marketing or sale of the Company’s products; developments by competitors that render such products obsolete or non-competitive; the Company’s ability to maintain license agreements; the continued maintenance and growth of the Company’s patent estate; the ability to continue to remain well financed; and other factors described in the Company’s Annual Report on Form 10-K for the year ended December 31, 2024 and its other filings with the SEC, including subsequent periodic reports on Forms 10-Q and current reports on Form 8-K. The information in this release is provided only as of the date of this release, and Theriva 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.

VIRAGE PHASE 2 DATA UPDATE – AGENDA AND SPEAKERS

Introduction to Theriva and VCN-01

Steven Shallcross - CEO, CFO, Theriva Biologics, Inc.

Pancreatic cancer **treatment landscape**

Manuel Hidalgo Medina, MD, PhD – Chief of Hematology and Medical Oncology, Weill Cornell Medicine/New York-Presbyterian Hospital

Mike Pishvaian, MD, PhD - Associate Professor of Oncology and Director of Gastrointestinal, Developmental Therapeutics and Clinical Research Programs, Johns Hopkins Kimmel Cancer Center

VIRAGE Phase 2b **clinical data review**

Manel Cascallo, PhD – General Director, Theriva Biologics S.L.

Questions and answers

All speakers



Manuel Hidalgo



Steven Shallcross



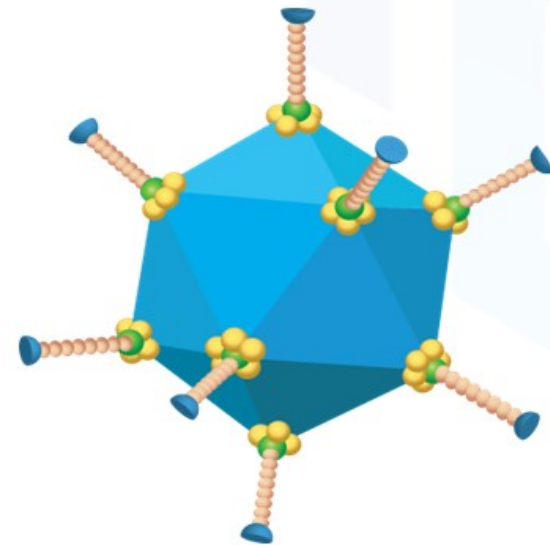
Mike Pishvaian



Manel Cascallo



Theriva™ Biologics
develops unique
oncolytic virus therapeutics
targeting solid tumors



VCN-01
(zabilugene almadenorepvec)

OVERVIEW



VCN-01 Completed Phase 2b clinical trial in first-line metastatic pancreatic cancer in combination with SoC chemotherapy



VCN-01 Phase 1 clinical trials support multiple additional indications (CRC, HNSCC, Rb) and combinations (ICI & CAR-T cells)



VCN-X innovative oncolytic virus discovery engine enabling development of a distinct product pipeline

Financial Snapshot

Exchange	NYSE American
Ticker	TOVX
Cash (12/31/2024)	\$11.6M
Projected cash runway	Q3 2025
Average Daily Volume (3M)	55.8k ¹
Locations	Rockville, MD / Barcelona, Spain



CRC colorectal cancer. HNSCC head and neck squamous cell carcinoma. Rb retinoblastoma. SoC standard of care. ICI Immune checkpoint inhibitors. ¹At 28Apr2025 Yahoo! Finance

THERIVA PIPELINE

Candidate	Target	Pre-IND	Phase 1	Phase 2	Phase 3	Sites	Status*
VCN-01 Selective, Stroma Degrading OV	Pancreatic Cancer (IV) with gemcitabine/nab-paclitaxel					Multicenter Spain, USA	Phase 2b enrollment complete Orphan Drug Designation US, EU Fast Track Designation US
	Retinoblastoma (IVit)						Phase 1 Complete, CSR in preparation Orphan Drug Designation US, EU Rare Pediatric Disease Designation US
	HNSCC (IV) + durvalumab						Phase 1 Complete, CSR in preparation
	Brain tumors (IV)						Phase 1 Study On-going
VCN-X and Albumin Shield OV's	Solid tumors (IV)					 	Preclinical Studies On-going
SYN-004^[1] Oral β -lactamase	Prevention of aGVHD in allo-HCT						Phase 1b/2a On-going
SYN-020^[2] Oral IAP	Potential indications include NA FLD/NA SH, celiac, radiation enteritis						Phase 1 Studies Complete



*Based on Management's current beliefs and expectations. aGVHD acute graft-vs-host disease; allo-HCT allogeneic hematopoietic cell transplant. CSR clinical study report. HNSCC head and neck squamous cell carcinoma. IV intravenous. IVit intravitreal. ¹Final Phase 1b/2a study cohort contingent on grant funding or partnership. ²Seeking partnership or out-licensing for further development.

VCN-01 IS A UNIQUELY ENGINEERED HUMAN ADENOVIRUS 5

High dose, highly replicating virus designed to destroy cancer cells

Systemic

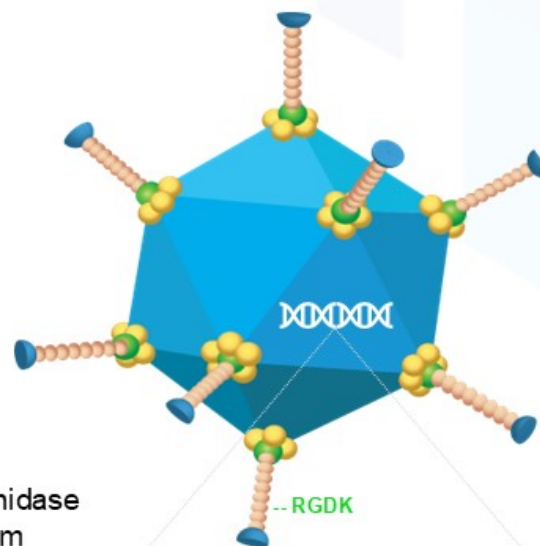
VCN-01 targets both **primary** and **metastatic** lesions

Selective

Virus replicates only in **tumor** cells
Liver detargeted

Stroma Degrading

Replicating virus expresses **PH20** hyaluronidase
Exposes solid tumors to the immune system
and co-administered therapies



E2F binding +++ → E1a-Δ24 → MLP → PH20



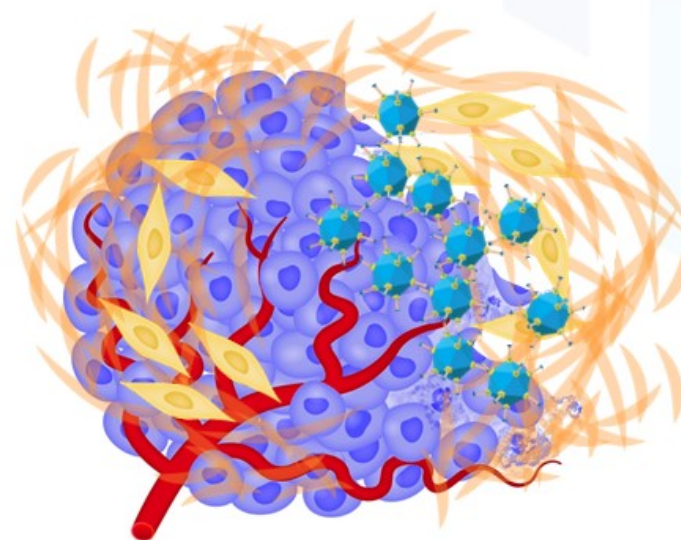
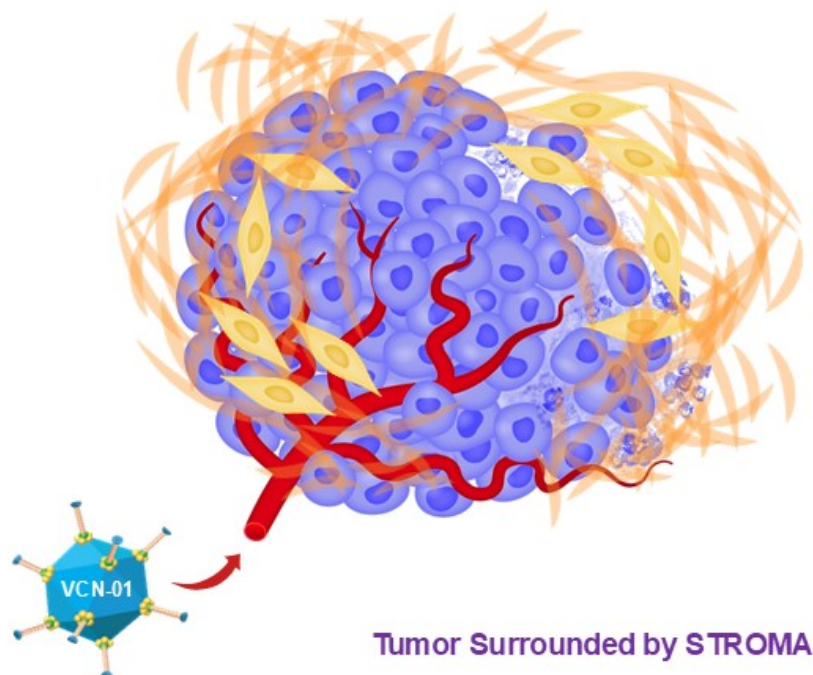
Replication enhanced by significantly increased E2F binding. E1a-Δ24 gene deletion means replication only in cells with a defective Rb-E2F pathway. Fiber shaft RGDK modification. PH20 soluble human testicular hyaluronidase enzyme expression is under control of the virus major late promoter (MLP).

7

VCN-01 IS A UNIQUELY ENGINEERED HUMAN ADENOVIRUS 5

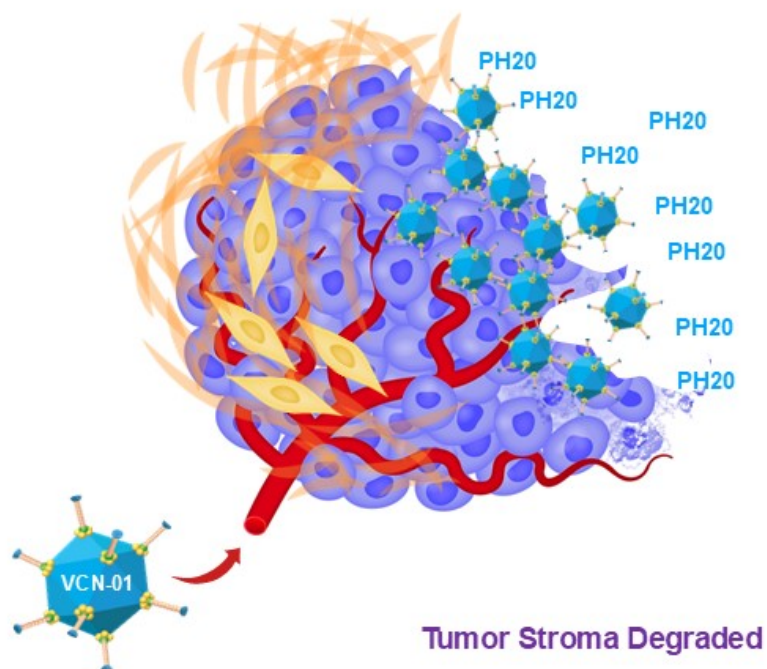
- 1 **SYSTEMIC** delivers VCN-01 to the primary tumor and metastases and detargets the liver

- 2 **SELECTIVE** replication at very high levels lyses tumor cells directly without harming healthy tissues



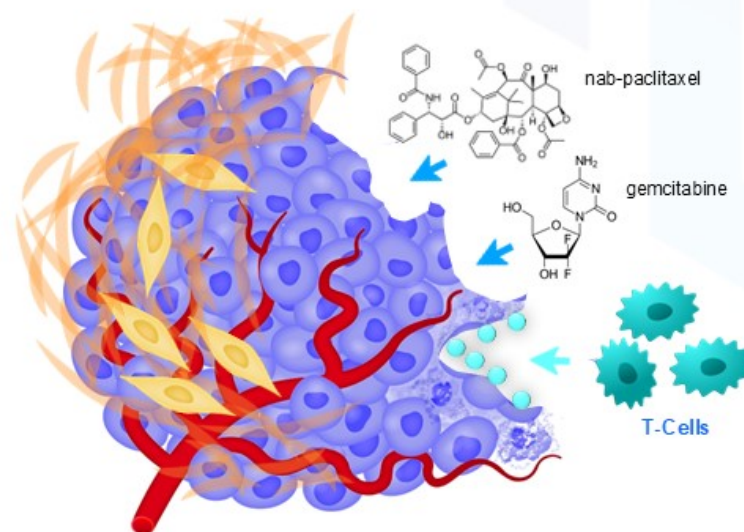
VCN-01 DESIGNED TO HAVE MULTIPLE ANTI-TUMOR ACTIONS

- 3 **STROMA** degradation by PH20 facilitates solid tumor access and destruction by coadministered cancer therapies



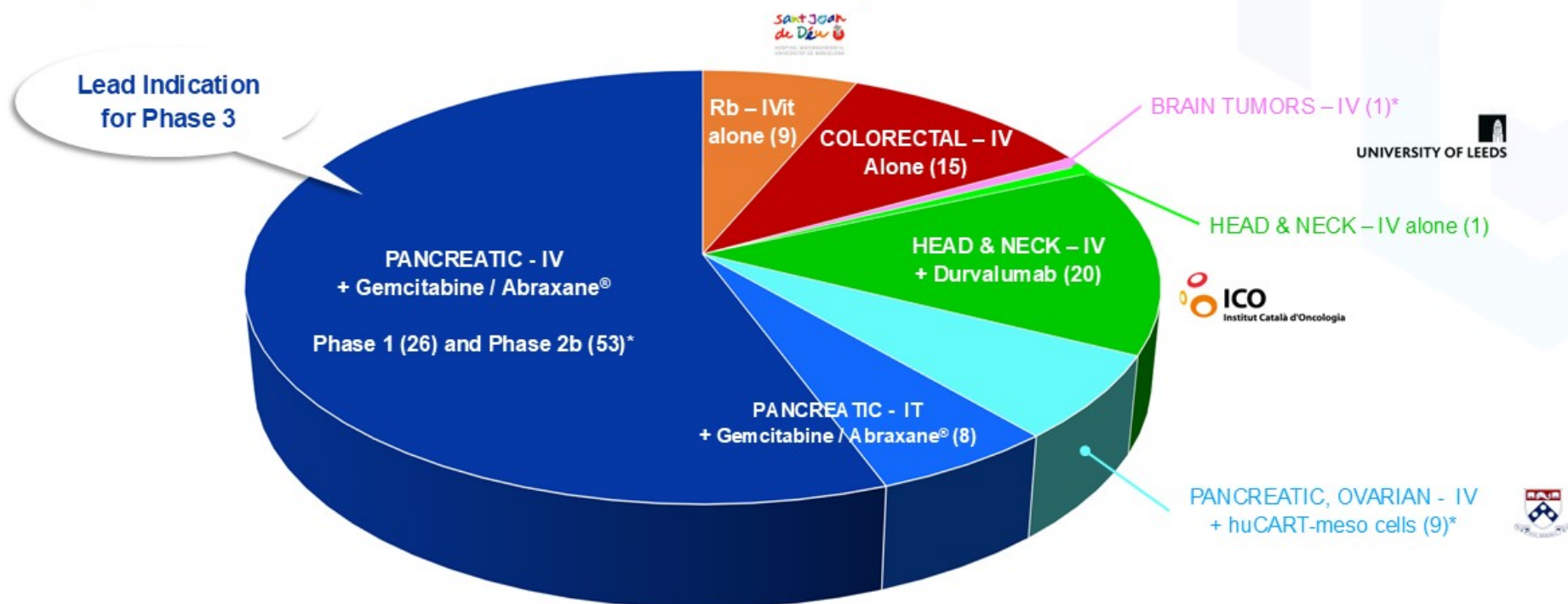
Theriva
BIOLOGICS

- 4 **IMMUNOGENIC** actions of VCN-01 turn "cold" tumors "hot" and elicit an anti-tumor immune response



VCN-01 EXTENSIVE CLINICAL PROGRAM

142 patients treated with VCN-01 to date in multiple indications and combinations



(Number of VCN-01 Patients Treated in Parentheses)

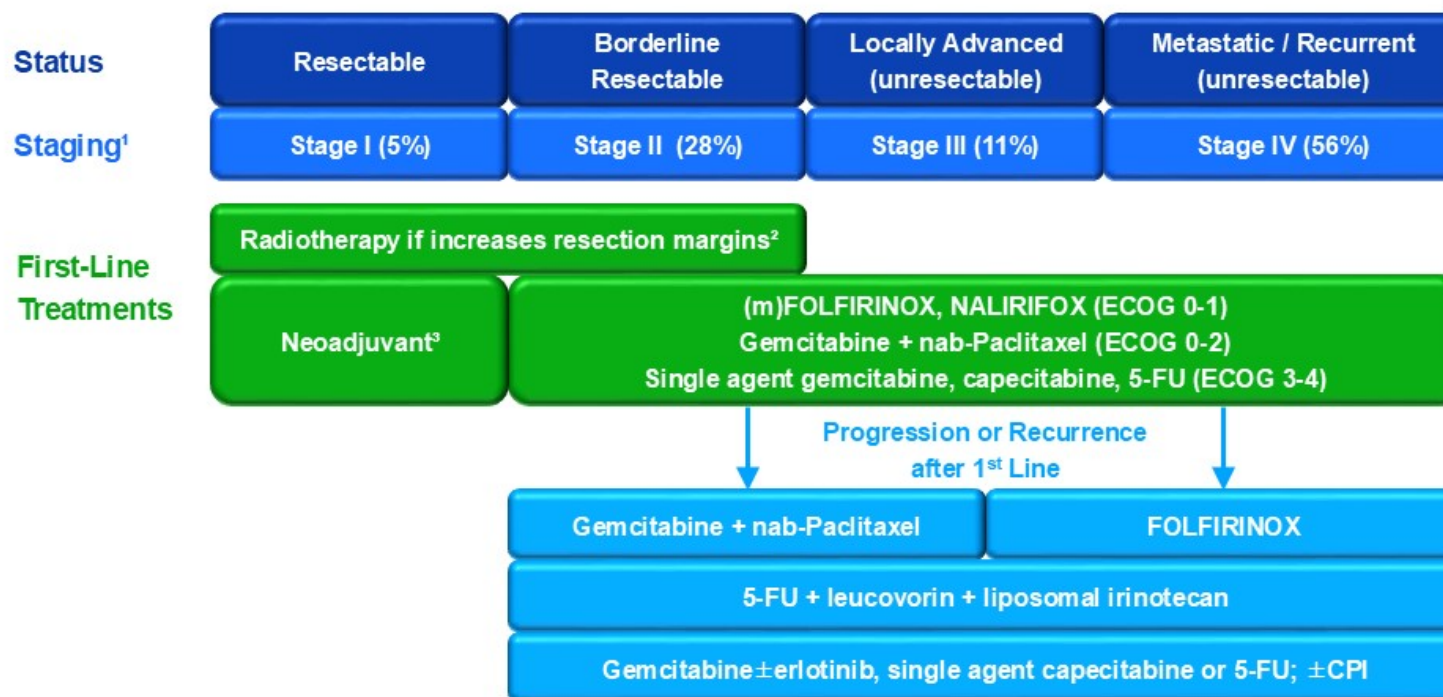


*On-going study. Abraxane® - nab-paclitaxel. Durvalumab (IMFINZI®, AstraZeneca) is an anti-PD-L1 mAb immune checkpoint inhibitor. huCART-meso are autologous T cells engineered to express an extracellular single chain variable fragment (scFv) with mesothelin specificity. IT - intratumoral. IV - intravenous. IVit - intravitreal. Rb - retinoblastoma. See Appendix for study registry numbers and publications.



PANCREATIC CANCER TREATMENT LANDSCAPE

PANCREATIC CANCER CURRENT TREATMENTS



Additional treatments are available for small subsets of patients with gene mutations such as gBRCAm, NRG1 fusion



VCN-01 IN METASTATIC PANCREATIC CANCER

VCN-01 LEAD INDICATION PANCREATIC CANCER

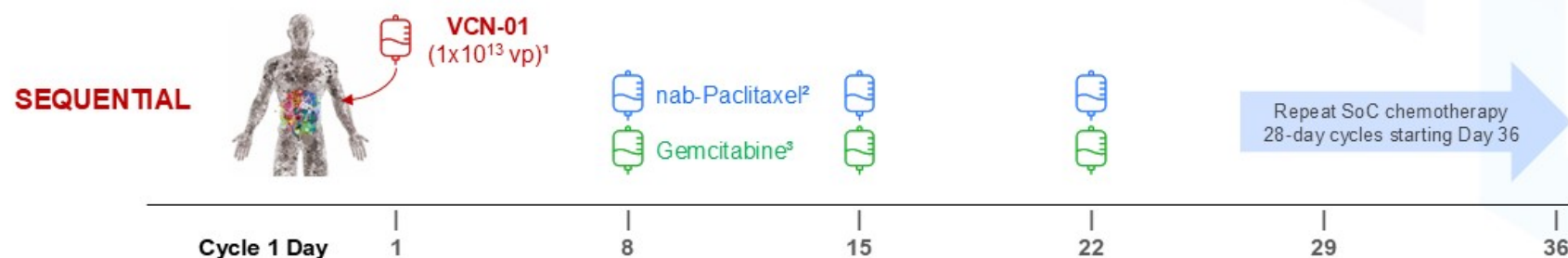
Highly fatal cancer protected by dense tumor stroma

- Orphan disease, highest mortality of all solid tumors
 - Median survival 8-11 months for metastatic disease^{1,2}
 - USA est. 66,440 new cases and 51,750 deaths in 2024³
- **Hyaluronic acid** in stroma is associated with reduced treatment efficacy and poor prognosis⁴
 - VCN-01 designed to degrade hyaluronic acid
- Incidence is growing worldwide
 - Est. treatment market ~\$2.9B (2024) ~\$6.0B (2030)⁵



PREFERRED VCN-01 DOSING REGIMEN ESTABLISHED IN PHASE 1

Dose escalation in patients with metastatic pancreatic cancer



Encouraging clinical profile

Primary AEs fever, flu-like illness, reversible increase in liver enzymes

Survival and response rates better than published results for gemcitabine/nab-paclitaxel SoC

Clinical evidence of proposed MOA

VCN-01 viral genomes and increased immune markers detected in tumor biopsies

VCN-01 tumor penetration and replication indicated by persistent systemic PH20

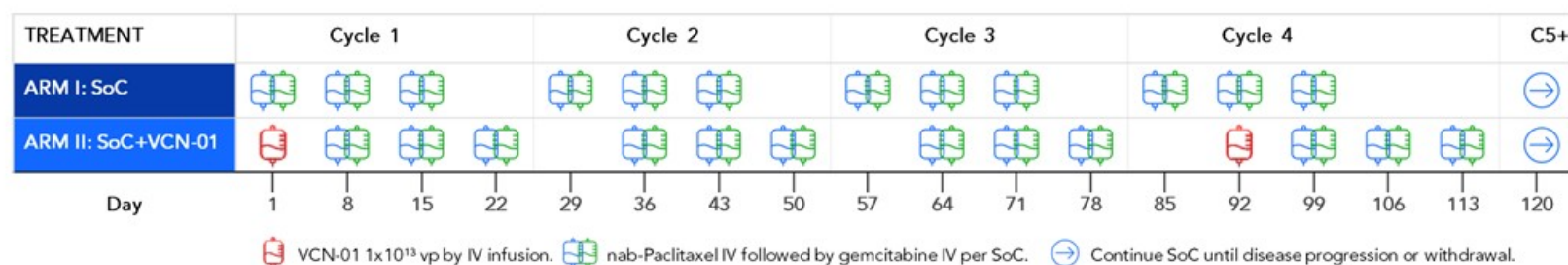


¹Single dose of VCN-01 administered by 10 min IV infusion. ²nab-Paclitaxel (Abraxane®; 30 min infusion) administered at least 4 hours after VCN-01. ³Gemcitabine (30 min infusion) administered immediately after Abraxane® infusion. Garcia-Carbonero (2022) J Immunother Cancer 10:e003255. [NCT02045602] SoC standard of care.

VIRAGE PANCREATIC CANCER PHASE 2B CLINICAL TRIAL

Multicenter, open-label, randomized, controlled trial (NCT05673811)

- Patients with newly-diagnosed metastatic pancreatic ductal adenocarcinoma ([first line](#))
- Direct comparison of up to [two doses](#) of VCN-01 with gemcitabine/nab-paclitaxel standard of care (SoC) chemotherapy to SoC chemotherapy alone (randomized 1:1)
- Primary endpoints [overall survival](#), VCN-01 AE profile and tolerability
- Secondary endpoints include [progression free survival](#), duration of response



Study designed with 80% power to detect a hazard ratio (HR) of 0.65 for OS with a 1-sided alpha of 0.05 (2-sided alpha 0.1). P-values are for 2-sided statistical analysis using the log rank test.

VIRAGE ENROLLMENT

Parameter	Spain	USA	Total
Sites Open	10	7	17
Screened	131	40	171
Screen Failure	42 (32%)	17 (43%)	59 (35%)
Randomized	89	23	112
SoC	44	11	55
VCN-01 + SoC	45	12	57
Treated*			
SoC	41	7	48
VCN-01 + SoC	39	9	48

Standard of care (SoC) is gemcitabine / nab-paclitaxel chemotherapy in repeated 28-day cycles

*Patients received at least one dose of SoC in each arm and comprise the **Full Analysis Set**

Five (5) additional patients received one dose of VCN-01 but no doses of SoC and are included in the Safety Population

VIRAGE BASELINE DEMOGRAPHICS

Patients who received at least one dose of SoC in each Arm (FAS)

	Statistics	SoC (n=48)	VCN-01 + SoC (n=48)	Combined (n=96)
Age (years)	n	48	48	96
	Mean (SD)	69.5 (8.25)	66.0 (8.97)	67.8 (8.75)
	Median	68.5	66.0	67.5
Gender				
	Male	n (%)	22 (45.8)	45 (46.9)
	Female	n (%)	26 (54.2)	51 (53.1)
ECOG at randomization				
	0	n (%)	17 (35.4)	36 (37.5)
	1	n (%)	31 (64.6)	60 (62.5)
Body Mass Index (kg/m ²)				
	Mean (SD)	25.69 (4.265)	23.84 (3.502)	24.76 (3.992)
	Median	25.65	23.70	24.05



Full analysis set (FAS) for ARM I includes patients who received at least one dose of gemcitabine/nab paclitaxel SoC chemotherapy; FAS for ARM II includes patients who received VCN-01 followed 1 week later by at least one dose of gemcitabine/nab paclitaxel SoC chemotherapy. 70.8% of patients in the VCN-01+SoC arm received 2 doses of VCN-01.

VIRAGE TREATMENT EMERGENT ADVERSE EVENTS

VCN-01 related events occurring in ≥5% of patients

Preferred Term – No. Patients (%) ^{a,b}	All Grades		Grade 3-4	
	First Dose (n=53)	Second Dose (n=36)	First Dose (n=53)	Second Dose (n=36)
Pyrexia	31 (58.5%)	19 (52.7%)	1 (1.9%)	-
Nausea	16 (30.2%)	6 (16.6%)	-	-
Asthenia	15 (28.3%)	4 (11.1%)	1 (1.9%)	1 (2.8%)
Vomiting	14 (26.4%)	9 (25.0%)	-	-
Aspartate aminotransferase increased	10 (18.9%)	1 (2.7%)	5 (9.4%)	-
Alanine aminotransferase increased	9 (16.9%)	1 (2.7%)	4 (7.5%)	-
Influenza like illness	9 (16.9%)	1 (2.7%)	7 (13.2%)	-
Transaminases increased	8 (15.1%)	2 (5.5%)	4 (7.5%)	-
Platelet count decreased/Thrombocytopenia	7 (13.2%)	1 (2.7%)	1 (1.9%)	-
Decreased appetite	7 (13.2%)	1 (2.7%)	-	-
Diarrhea	7 (13.2%)	3 (5.5%)	-	-
Fatigue	5 (9.4%)	-	-	-
Chills	5 (9.4%)	7 (19.4%)	-	-
Lymphocyte count decreased	4 (7.5%)	1 (2.7%)	3 (5.7%)	-
Gamma-glutamyl transferase increased	4 (5.7%)	-	3 (5.7%)	-
Anemia	3 (5.7%)	-	1 (1.9%)	-
Cytokine release syndrome	3 (5.7%)	2 (5.5%)	-	-

Additional Grade 3/4 AEs occurring <5%

Treatment-induced liver injury 2 (3.8%)
 Neutrophil count decreased 1 (1.9%)
 Lipase increased 1 (1.9%)
 Alkaline phosphatase increased 1 (1.9%)
 Neutropenia 1 (1.9%)
 Hypotension 1 (1.9%)

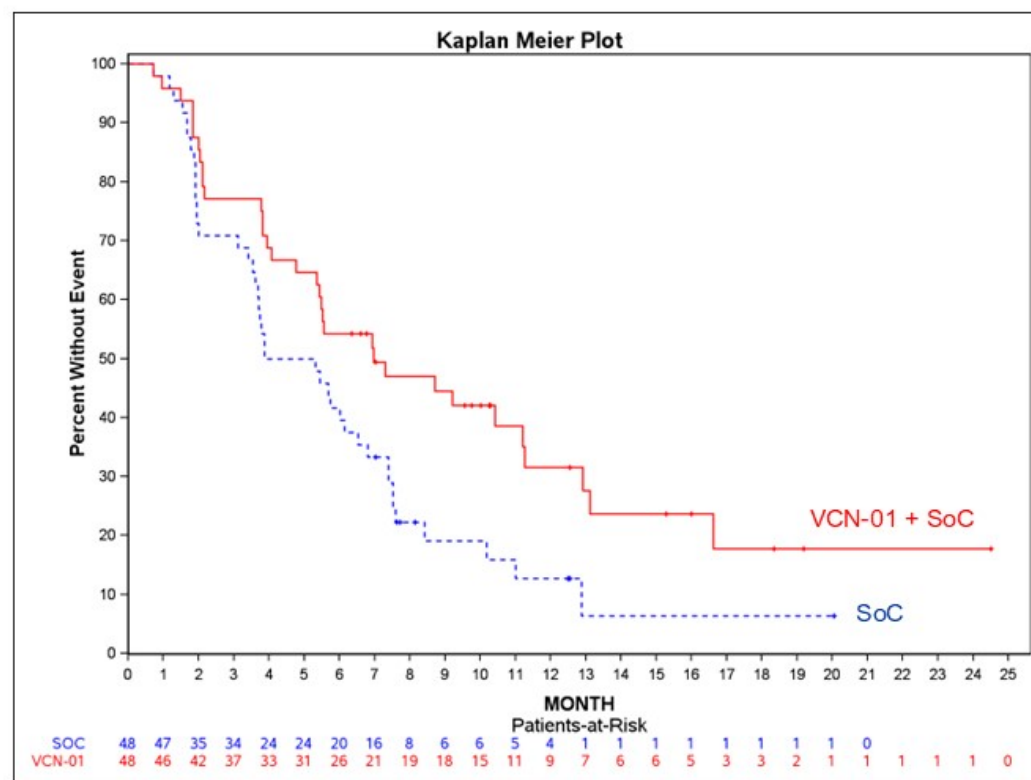


^aNumber of patients and ^bpercentage of patients dosed presenting the treatment related adverse event (TEAE).
 Note: events with a temporal continuity are accounted as only one with the highest grade

VIRAGE SAFETY REVIEW BY INDEPENDENT DMC

- VIRAGE clinical data was reviewed on two occasions by an independent Data Monitoring Committee (DMC) who noted the following:
 - Intravenous VCN-01 was well tolerated in patients treated in this study
 - The most common VCN-01 related AEs (pyrexia, flu-like illness, vomiting, nausea, and elevated transaminases) were transient and reversible.
 - AEs were observed to be less frequent and of reduced CTCAE grade after the second VCN-01 dose compared to the first VCN-01 dose
 - The overall type and number of AEs in the VCN-01+SoC treatment group was as expected for the pancreatic cancer population, the duration of treatment, and the administration of an oncolytic virus

INCREASED PROGRESSION-FREE SURVIVAL IN VCN-01+SOC ARM



Treatment Arm	Events / Total	Median (95% CI)	Adj HR (95% CI)
SoC	41 / 48	4.6 (3.5-6.5)	Ref.
VCN-01 + SoC	33 / 48	7.0 (4.8-11.2)	0.55 (0.34-0.88)

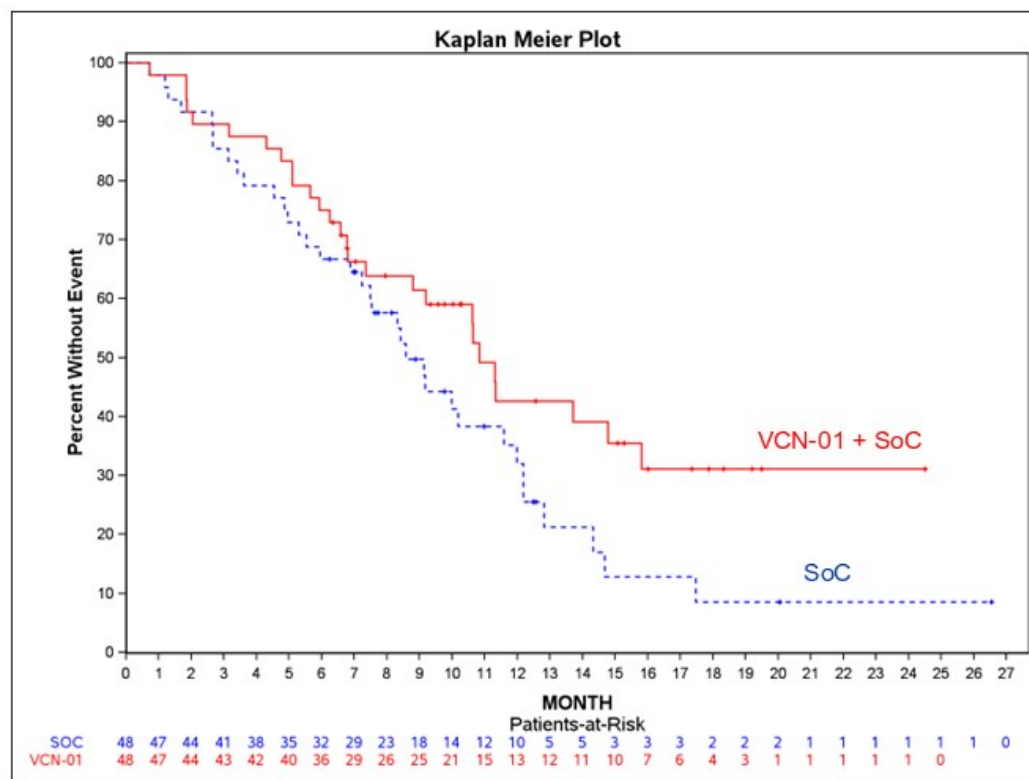
Logrank P-value: 0.0105

+ Censor



Based on CT scan evaluation by sites. Data are for the **Full Analysis Set (FAS)** which comprises patients who received at least 1 dose of gemcitabine/nab-paclitaxel (SoC) chemotherapy in each arm. 70.8% of patients in the VCN-01+SoC arm received 2 doses of VCN-01.

INCREASED OVERALL SURVIVAL IN VCN-01+SOC ARM



Treatment Arm	Events / Total	Median (95% CI)	Adj HR (95% CI)
SoC	35 / 48	8.6 (6.9-11.6)	Ref.
VCN-01 + SoC	27 / 48	10.8 (7.4-15.8)	0.57 (0.34-0.96)

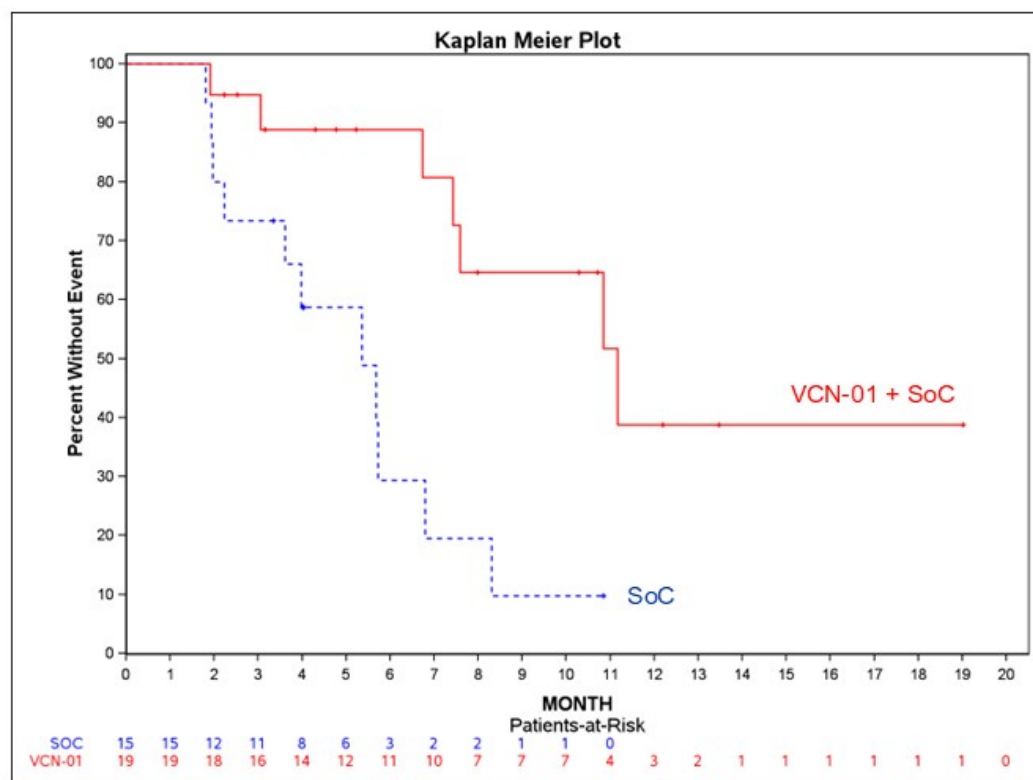
Logrank P-value: 0.0546

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Data are for the **Full Analysis Set (FAS)** which comprises patients who received at least 1 dose of gemcitabine/nab-paclitaxel (SoC) chemotherapy in each arm. 70.8% of patients in the VCN-01+SoC arm received 2 doses of VCN-01.

DURATION OF RESPONSE DOUBLED IN VCN-01+SOC ARM



Treatment Arm	Events / Total	Median (95% CI)	Adj HR (95% CI)
SoC	11 / 15	5.4 (2.0-6.8)	Ref.
VCN-01 + SoC	7 / 19	11.2 (7.4-NE)	0.22 (0.08-0.62)

Logrank P-value: 0.0035

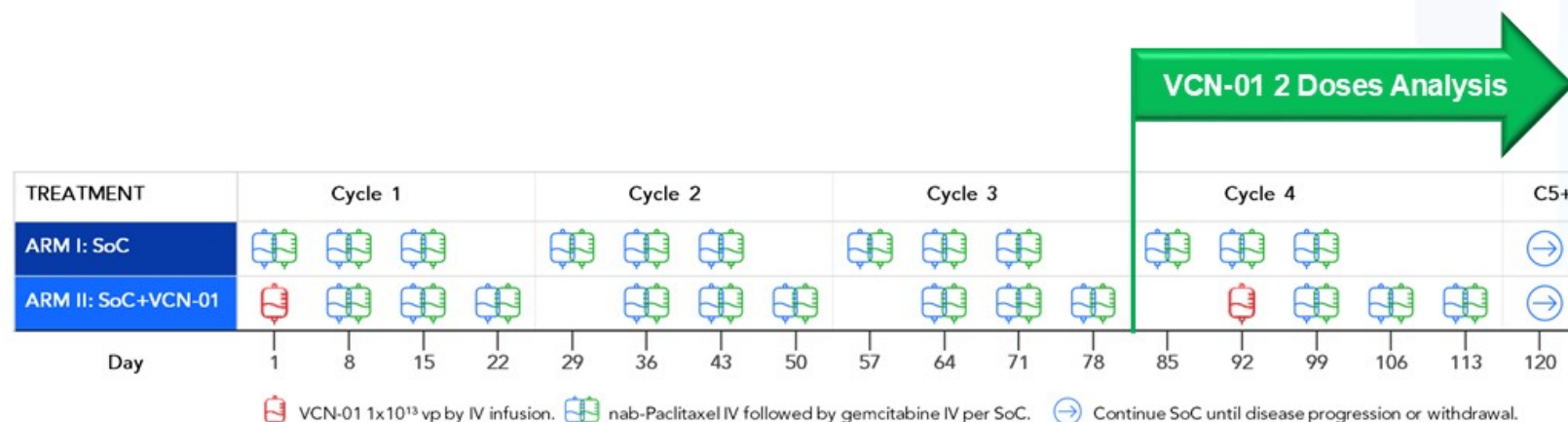
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Based on CT scan evaluation by sites. Data are for the **Full Analysis Set (FAS)** which comprises patients who received at least 1 dose of gemcitabine/nab-paclitaxel (SoC) chemotherapy in each arm.

VIRAGE ANALYSIS OF PTS RECEIVING TWO VCN-01 DOSES

Evaluate the impact of the second VCN-01 dose



- Measure OS and PFS in patients who initiate the 4th treatment cycle
 - ARM I: Cycle 4 of gemcitabine/nab-paclitaxel SoC
 - ARM II: Second dose of VCN-01 followed by Cycle 4 of gemcitabine/nab-paclitaxel SoC

VIRAGE DEMOGRAPHICS PTS RECEIVING TWO VCN-01 DOSES

Comparison of patients who started the 4th treatment cycle

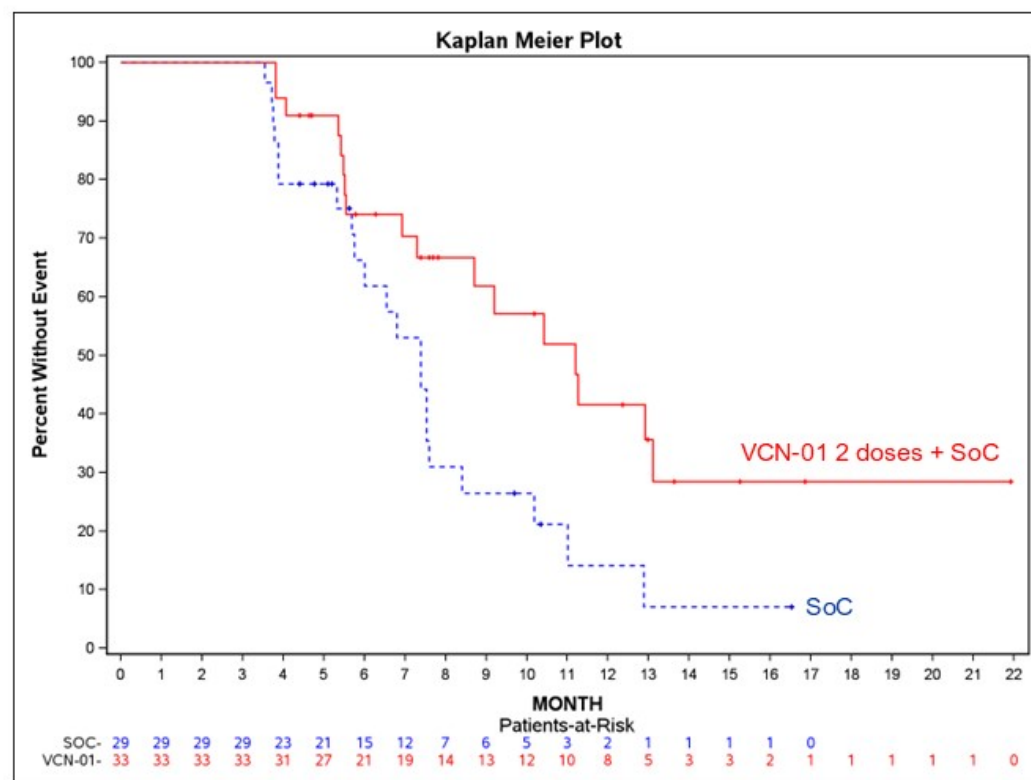
	Statistics	SoC	VCN-01 + SoC	Combined
No. Patients (% of cohort)	n (%)	29 (60.4)	34 (70.8)	63 (65.6)
Age (years)	Mean (SD)	68.1 (8.31)	65.8 (9.71)	66.9 (9.09)
	Median	66.0	66.0	66.0
Gender				
Male	n (%)	13 (44.8)	17 (50.0)	30 (47.6)
Female	n (%)	16 (55.2)	17 (50.0)	33 (52.4)
ECOG at randomization				
0	n (%)	14 (48.3)	15 (44.1)	29 (46.0)
1	n (%)	15 (51.7)	19 (55.9)	34 (54.0)
Body Mass Index (kg/m ²)				
	Mean (SD)	24.94 (3.304)	23.78 (3.707)	24.31 (3.547)
	Median	25.60	23.65	23.70



Analysis compares patients in ARM II who received a **second dose of VCN-01** followed 1-week later by the **4th treatment cycle** of gemcitabine/nab-paclitaxel SoC to patients in ARM I who started the 4th treatment cycle of gemcitabine/nab-paclitaxel SoC.

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IMPROVED PFS IN PTS RECEIVING TWO VCN-01 DOSES



Treatment Arm	Events / Total	Median (95% CI)	Adj HR (95% CI)
SoC	22 / 29	7.4 (5.7-8.4)	Ref.
VCN-01 x 2 + SoC	19 / 34	11.2 (7.3-16.6)	0.48 (0.25-0.91)

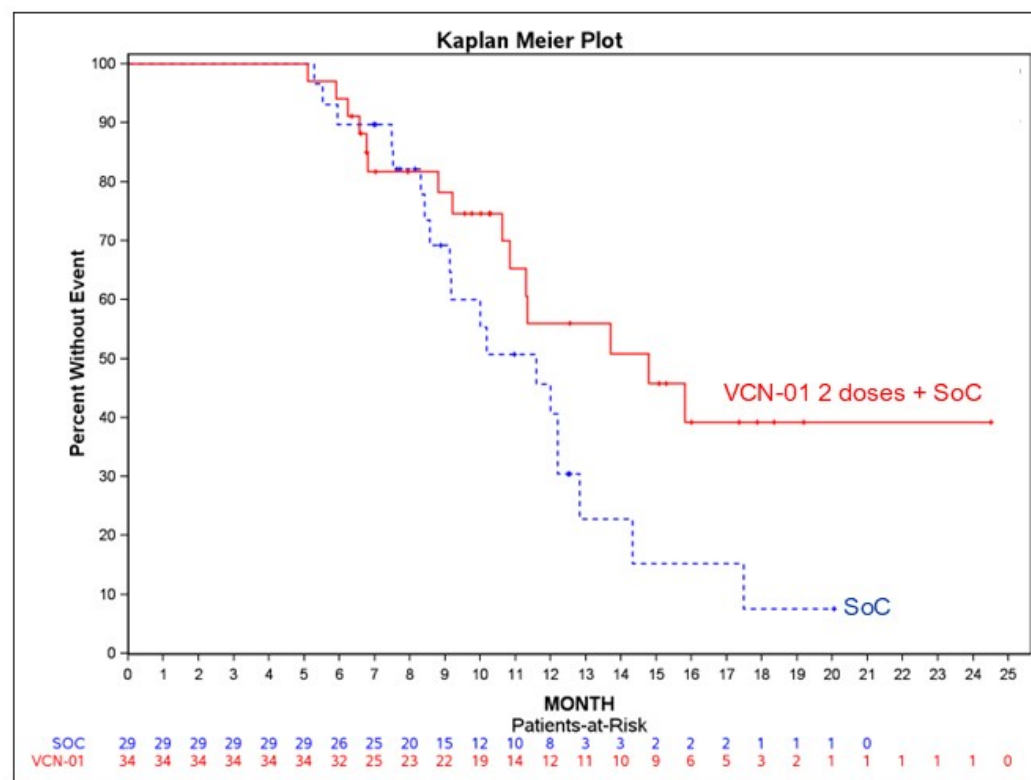
Logrank P-value: 0.0173

+ Censor



PFS progression free survival. Based on CT scan evaluation by sites. Analysis compares patients in ARM II who received a **second dose of VCN-01** followed 1-week later by the **4th treatment cycle** of gemcitabine/nab-paclitaxel SoC to patients in ARM I who started the 4th treatment cycle of gemcitabine/nab-paclitaxel SoC.

IMPROVED OS IN PTS RECEIVING TWO VCN-01 DOSES



Treatment Arm	Events / Total	Median (95% CI)	Adj HR (95% CI)
SoC	19 / 29	11.6 (8.6-12.8)	Ref.
VCN-01 x 2 + SoC	15 / 34	14.8 (10.6-NE)	0.44 (0.21-0.92)

Logrank P-value: 0.0460

+ Censor



OS overall survival. Analysis compares patients in ARM II who received a **second dose of VCN-01** followed 1-week later by the **4th treatment cycle** of gemcitabine/nab-paclitaxel SoC to patients in ARM I who started the 4th treatment cycle of gemcitabine/nab-paclitaxel SoC.

VIRAGE RESULTS SUPPORT VCN-01 PHASE 3 TRIAL IN PDAC

- Enrolled a “real world” population of older and more fragile patients
- Acceptable AE profile consistent with prior VCN-01 clinical trials
- Increased OS, PFS, and DoR in VCN-01 plus gemcitabine/nab-paclitaxel SoC treatment group compared to SoC alone
 - Hazard ratios for OS (0.57), PFS (0.55), and DoR (0.22) compare favorably to values reported for Phase 3 trial comparing NALIRIFOX with gemcitabine/nab-paclitaxel (0.83, 0.69, and 0.67 respectively)¹
 - Second VCN-01 dose appears to confer additional survival benefit
- Regulatory advice received (FDA, EMA) on potential pivotal trial design
 - Orphan Drug Designation (FDA, EMA) and Fast Track Designation (FDA)



DoR duration of response. OS overall survival. PFS progression free survival. NALIRIFOX leucovorin+ 5-FU+liposomal irinotecan+oxaliplatin. ¹Wainberg (2023) Lancet 402:1272; median age 65 years, ECOG 1 57% in NALIRIFOX group.

QUESTIONS AND ANSWERS



Manuel Hidalgo Medina, MD, PhD
Chief of Hematology and Medical Oncology, Weill Cornell Medicine/New York-
Presbyterian Hospital



Mike Pishvaian, MD, PhD
Associate Professor of Oncology and Director of Gastrointestinal,
Developmental Therapeutics and Clinical Research Programs, Johns Hopkins
Kimmel Cancer Center



Steven Shallcross
CEO, CFO, Theriva Biologics, Inc.



Manel Cascallo, PhD
General Director, Theriva Biologics S.L.





APPENDIX



THERIVA ONCOLYTIC VIRUSES KEY PUBLICATIONS

- Bayo-Puxan N et al. (2006) Role of the putative heparan sulfate glycosaminoglycan-binding site of the adenovirus type 5 fiber shaft on liver detargeting and knob-mediated retargeting. *J Gen Virol* 87:2487–2495
- Bazan-Peregrino M et al. (2021) VCN-01 disrupts pancreatic cancer stroma and exerts antitumor effects. *J ImmunoTher Cancer* 9:e003254.
- Garcia-Carbonero R et al. (2019) Poster 5185: Systemic administration of the hyaluronidase-expressing oncolytic adenovirus VCN-01 in patients with advanced or metastatic pancreatic cancer: first-in-human clinical trial. European Society for Molecular Oncology conference ESMO, 29 September 2019.
- Garcia-Carbonero R et al. (2022) A phase I, multicenter, open-label study of intravenous VCN-01 oncolytic adenovirus with or without nab-paclitaxel plus gemcitabine in patients with advanced solid tumors. *J ImmunoTher Cancer* 10:e003255
- Garcia-Carbonero R et al. (2024) VIRAGE: A phase IIb, open-label, randomized study of nab-paclitaxel and gemcitabine plus/minus VCN-01 in patients with metastatic pancreatic cancer. *J Clin Oncol* 42S:TPS4210.
- Guedan S et al. (2010) Hyaluronidase expression by an oncolytic adenovirus enhances its intratumoral spread and suppresses tumor growth. *Mol Ther* 18:1275–1283
- Hidalgo M et al. (2019) Poster 5465: Proof of concept clinical study by EUS-guided intratumor injection of VCN-01, an oncolytic adenovirus expressing hyaluronidase in patients with pancreatic cancer. European Society for Molecular Oncology conference ESMO, 28 September 2019.
- Jove M et al. (2022) Poster 1231P: Phase I study to evaluate the safety, tolerability, and efficacy of VCN-01 in combination with durvalumab (MEDI4736) in subjects with recurrent/metastatic squamous cell carcinoma of the head and neck (R/M HNSCC) *Ann Oncol.* 33:S1112. European Society for Molecular Oncology conference ESMO 2022, 10 September 2022
- Kiyokawa M et al. (2021) Modification of extracellular matrix enhances oncolytic adenovirus Immunotherapy in glioblastoma. *Clin Cancer Res* 27:889-902
- Martínez-Vélez N et al. (2019) The oncolytic adenovirus VCN-01 as therapeutic approach against pediatric osteosarcoma. *Clin Cancer Res* 22:2217-25
- Mato-Berciano A et al. (2021) Oncolytic adenovirus with hyaluronidase activity that evades neutralizing antibodies: VCN-11. *J Control Rel* 332:517-528
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PROSPECTUS

**Filed Pursuant to Rule 424(b)(5)
Registration No. 333-283722**



**1,990,900 Shares of Common Stock
6,818,180 Common Warrants to Purchase Up to 6,818,180 Shares of Common Stock
4,827,280 Pre-Funded Warrants to Purchase Up to 4,827,280 Shares of Common Stock
11,645,460 Shares of Common Stock Underlying the Common Warrants and Pre-Funded Warrants**

We are offering on a best efforts basis 1,990,900 shares of our common stock, par value \$0.001 (the “Common Stock”), and 4,827,280 pre-funded warrants (the “Pre-Funded Warrants”) to purchase up to 4,827,280 shares of Common Stock, together with warrants to purchase up to 6,818,180 shares of our Common Stock. Each share of Common Stock, or a pre-funded warrant in lieu thereof, is being sold together with a common warrant to purchase one share of Common Stock (the “Common Warrant”). The shares of Common Stock and Common Warrants are immediately separable and will be issued separately in this offering, but must be purchased together in this offering. The public offering price for each share of Common Stock and accompanying Common Warrant is \$1.10. Each Common Warrant will have an exercise price per share of \$1.10 and will be immediately exercisable. The Common Warrants will expire on the 5-year anniversary of the original issuance date.

We are also offering to certain purchasers Pre-Funded Warrants in lieu of shares of Common Stock that would otherwise result in any such purchaser’s beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding Common Stock immediately following the consummation of this offering. The public offering price of each Pre-Funded Warrant and accompanying Common Warrant is \$1.099, which is equal to the price of one share of Common Stock and accompanying Common Warrant in this offering, minus \$0.001, and the exercise price of each Pre-Funded Warrant will be \$0.001 per share. The Pre-Funded Warrants will be immediately exercisable and may be exercised at any time until all of the Pre-Funded Warrants are exercised in full. The Pre-Funded Warrants and Common Warrants are immediately separable and will be issued separately in this offering, but must be purchased together in this offering.

We have engaged A.G.P./Alliance Global Partners (“A.G.P.” or the “Placement Agent”), to act as our sole placement agent, to use its reasonable best efforts to arrange for the sale of the securities offered by this prospectus. The Placement Agent is not purchasing or selling any of the securities we are offering, and the Placement Agent is not required to arrange the purchase or sale of any specific number or dollar amount of securities.

The securities will be offered at a fixed price and are expected to be issued in a single closing. We expect that the closing of the offering will occur on or about May 8, 2025, but no later than one trading day after we price the securities offered hereby if we price such securities prior to 4:01 p.m. eastern time on a trading day and two trading days after we price the Securities offered hereby if we price such securities at any other time. When we price the securities, we will simultaneously enter into securities purchase agreements relating to the offering with those investors who so choose. The offering will settle delivery versus payment (“DVP”)/receipt versus payment (“RVP”). That is, on the closing date, we will issue the shares of Common Stock directly to the account(s) at the Placement Agent identified by each purchaser; upon receipt of such shares, the Placement Agent shall promptly electronically deliver such shares to the applicable purchaser, and payment therefor shall be made by the Placement Agent (or its clearing firm) by wire transfer to us.

Since we will deliver the securities to be issued in this offering upon our receipt of investor funds, we and the Placement Agent have not made any arrangements to place investor funds in an escrow account or trust account. Because this is a best efforts offering, the Placement Agent does not have an obligation to purchase any securities, and, as a result, there is a possibility that we may not be able to sell the securities. There is no minimum offering requirement as a condition of closing of this offering. Because there is no minimum offering amount required as a condition to closing this offering, we may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue our business goals described in this prospectus. In addition, because there is no escrow account and no minimum offering amount, investors could be in a position where they have invested in our company, but we are unable to fulfill all of our contemplated objectives due to a lack of interest in this offering. Further, any proceeds from the sale of securities offered by us will be available for our immediate use, despite uncertainty about whether we would be able to use such funds to effectively implement our business plan. See the section entitled “Risk Factors” for more information.

Our Common Stock is listed on the NYSE American. On May 6, 2025, the last reported sale price of our Common Stock on the NYSE American was \$1.36 per share. There is no established public trading market for the Common Warrants or the Pre-Funded Warrants, and we do not expect such a market to develop. Without an active trading market, the liquidity of the Common Warrants and the Pre-Funded Warrants will be limited. In addition, we do not intend to list the Common Warrants and the Pre-Funded Warrants on NYSE American, any other national securities exchange or any other trading system.

Investing in our securities involves risks. You should review carefully the risks and uncertainties described under the heading “Risk Factors” contained in this prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus, as described beginning on page 8 of this prospectus.

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

	Per Share of Common Stock and Accompanyin g Common Warrant	Per Pre- Funded Warrant and Accompanyin g Common Warrant	Total
Public offering price ⁽¹⁾	\$ 1.10	\$ 1.099	\$ 7,495,170.72
Placement agent fees ⁽²⁾	\$ 0.077	\$ 0.07693	\$ 524,661.9504
Proceeds to us, before expenses ⁽³⁾	\$ 1.023	\$ 1.02207	\$ 6,970,508.7696

- (1) The combined public offering price is \$1.10 per share of Common Stock and accompanying Common Warrant and \$1.099 per Pre-Funded Warrant and accompanying Common Warrant.
- (2) Represents a cash fee equal to 7.0% of the aggregate purchase price paid by investors in this offering. See “Plan of Distribution” for additional disclosure regarding compensation payable to the Placement Agent.
- (3) Does not include proceeds from the exercise of the Common Warrants and/or Pre-Funded Warrants in cash, if any.

Delivery of the securities is expected to be made on or about May 8, 2025.

Sole Placement Agent

A.G.P.

The date of this prospectus is May 7, 2025

THE OFFERING

Securities offered by us:	1,990,900 shares of Common Stock and accompanying Common Warrants to purchase up to 1,990,900 shares of Common Stock and Pre-Funded Warrants to purchase up to 4,827,280 shares of Common Stock, together with accompanying Common Warrants to purchase up to 4,827,280 shares of Common Stock on a reasonable “best efforts” basis. The shares of Common Stock or the Pre-Funded Warrants and accompanying Common Warrants are immediately separable and will be issued separately in this offering but must initially be purchased together in this offering. The Common Warrants are exercisable immediately, have an exercise price of \$1.10 per share, and will expire five years after the date of issuance. This prospectus also relates to the offering of the shares of Common Stock issuable upon exercise of the Common Warrants and Pre-Funded Warrants. For more information regarding the Common Warrants and Pre-Funded Warrants, you should carefully read the section titled “Description of Securities to be Registered” in this prospectus.
Pre-funded warrants offered by us in this offering	We are also offering Pre-Funded Warrants to each purchaser whose purchase of shares of Common Stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding Common Stock immediately following the consummation of this offering. The purchase price of each Pre-Funded Warrant and accompanying Common Warrant will be \$1.099, which is equal to the price at which one share of Common Stock and accompanying Common Warrant are being sold to the public in this offering, minus \$0.001, and the exercise price of each Pre-Funded Warrant will be \$0.001 per share. The Pre-Funded Warrants will be exercisable immediately and may be exercised at any time until all of the Pre-Funded Warrants are exercised in full. For more information regarding the Pre-Funded Warrants, you should carefully read the section titled “Description of Securities to be Registered” in this prospectus.
Reasonable Best Efforts Offering	We have agreed to issue and sell the securities offered hereby to the purchasers through the Placement Agent. The Placement Agent is not required to buy or sell any specific number or dollar amount of the securities offered hereby, but will use its reasonable best efforts to solicit offers to purchase the securities offered by this prospectus. See “Plan of Distribution” beginning on page 44 of this prospectus.

Risks Related to this Offering

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of the Common Stock. Our failure to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our shares of Common Stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

You will experience immediate and substantial dilution in the net tangible book value of the shares you purchase in this offering and may experience additional dilution in the future.

The combined public offering price per share of Common Stock and Common Warrant, and the public offering price of each Pre-Funded Warrant and Common Warrant, are substantially higher than the as adjusted net tangible book value per share of our Common Stock after giving effect to this offering. Assuming the sale of (x) 1,990,900 shares of our Common Stock at a public offering price of \$1.10 per share and Common Warrant and (y) Pre-Funded Warrants to purchase 4,827,280 shares of our Common Stock at a public offering price of \$1.099 per share and Common Warrant, and assuming the exercise of all such Pre-Funded Warrants, and after deducting the Placement Agent fees and commissions and estimated offering expenses payable by us, you will incur immediate dilution in as adjusted net tangible book value of approximately \$0.232 per share. As a result of the dilution to investors purchasing securities in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of the liquidation of our company. See the section entitled "Dilution" below for a more detailed discussion of the dilution you will incur if you participate in this offering. To the extent shares are issued under outstanding options and warrants at exercise prices lower than the public offering price of our Common Stock in this offering, you will incur further dilution.

This is a reasonable best efforts offering, with no minimum amount of securities required to be sold, and we may sell fewer than all of the securities offered hereby.

The Placement Agent has agreed to use its reasonable best efforts to solicit offers to purchase the securities in this offering. The Placement Agent has no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities that must be sold as a condition to completion of this offering, and there can be no assurance that the offering contemplated hereby will ultimately be consummated. Even if we sell securities offered hereby, because there is no minimum offering amount required as a condition to closing of this offering, the actual offering amount is not presently determinable and may be substantially less than the maximum amount set forth on the cover page of this prospectus. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us. Thus, we may not raise the amount of capital we believe is required for our operations in the short-term and may need to raise additional funds, which may not be available or available on terms acceptable to us.

We do not intend to pay dividends on the Common Stock, so any returns will be limited to increases, if any, in the Common Stock's value. Your ability to achieve a return on your investment will depend on appreciation, if any, in the price of the Common Stock.

We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on, among other factors, our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant. Any return to stockholders will therefore be limited to the appreciation in the value of their stock, if any.

There is no public market for the Common Warrants or Pre-Funded Warrants to purchase shares of the Common Stock being offered by us in this offering.

There is no established public trading market for the Common Warrants or Pre-Funded Warrants to purchase shares of the Common Stock that are being offered as part of this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the Common Warrants or Pre-Funded Warrants on any national securities exchange or other nationally recognized trading system, including the NYSE American. Without an active market, the liquidity of the Common Warrants and Pre-Funded Warrants will be limited.

The Common Warrants and Pre-Funded Warrants are speculative in nature.

Except as specified therein, the Common Warrants and Pre-Funded Warrants offered hereby do not confer any rights of Common Stock ownership on their holders, such as voting rights, but rather merely represent the right to acquire shares of the Common Stock at a fixed price. Specifically, commencing on the date of issuance, holders of the Common Warrants and Pre-Funded Warrants may exercise their right to acquire the shares of the Common Stock upon the payment of an exercise price of \$1.10 per share in the case of Common Warrants and an exercise price of \$0.001 per share in the case of Pre-Funded Warrants. Moreover, following this offering, the market value of the Common Warrants and Pre-Funded Warrants is uncertain and there can be no assurance that the market value of the Common Warrants will equal or exceed their imputed public offering prices. Furthermore, each Common Warrant will expire five years from the original issuance date and each Pre-Funded Warrant will not expire until it has been exercised in full. In the event the price of the Common Stock does not exceed the exercise price of the Common Warrants during the period when such Common Warrants are exercisable, the Common Warrants may not have any value. There is no established public trading market for the Common Warrants and Pre-Funded Warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the Common Warrants or Pre-Funded Warrants on any securities exchange or nationally recognized trading system, including NYSE American. Without an active market, the liquidity of the Common Warrants and Pre-Funded Warrants will be limited.

USE OF PROCEEDS

We estimate that we will receive net proceeds from this offering of approximately \$6.625 million, after deducting the estimated Placement Agent fees and estimated offering expenses payable by us and assuming exercise of any Pre-Funded Warrants or Common Warrants.

We currently intend to use the net proceeds from this offering primarily for working capital and general corporate purposes, including for research and development and manufacturing scale-up. We may also use a portion of the net proceeds to invest in or acquire other products, businesses or technologies, although we have no commitments or agreements with respect to any such investments or acquisitions as of the date of this prospectus.

These estimates exclude the proceeds, if any, from the exercise of Common Warrants offered hereby. If all of the Common Warrants offered hereby were to be exercised in cash at an exercise price of \$1.10 per share, we would receive additional proceeds of approximately \$7.5 million. We cannot predict when or if these Common Warrants will be exercised. It is possible that these Common Warrants may expire and may never be exercised. Additionally, these Common Warrants contain a cashless exercise provision that permit exercise of such Common Warrants on a cashless basis at any time when there is no effective registration statement under the Securities Act covering the issuance of the underlying shares.

The amounts and timing of any expenditures will vary depending on the amount of cash generated by our operations, and the rate of growth, if any, of our business, and our plans and business conditions. The foregoing represents our intentions as of the date of this prospectus based upon our current plans and business conditions to use and allocate the net proceeds of the offering. However, our management will have significant flexibility and discretion in the timing and application of the net proceeds of the offering. Unforeseen events or changed business conditions may result in application of the proceeds of the offering in a manner other than as described in this prospectus.

To the extent that the net proceeds we receive from the offering are not immediately applied for the above purposes, we plan to invest the net proceeds in short-term, investment-grade, interest-bearing instruments and U.S. government securities.

CAPITALIZATION

The following table sets forth our cash and capitalization as of December 31, 2024 on:

- an actual basis; and
- an as adjusted basis, after giving effect to the sale in this offering of 1,990,900 shares of Common Stock and 4,827,280 Pre-Funded Warrants at an offering price of \$1.10 per share of Common Stock and accompanying Common Warrant and \$1.099 per Pre-Funded Warrant and accompanying Common Warrant, assuming the exercise in full of Pre-Funded Warrants issued in this offering and no exercise of any Common Warrants, and after deducting the Placement Agent fees and estimated offering expenses payable by us.

You should read the information in this table together with our audited financial statements and related notes and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2024.

	As of December 31, 2024	
	Actual	As Adjusted (Unaudited)
	(in thousands, except share and per share data)	
Cash and Short-Term Investments	\$ 11,609	\$ 18,234
Liabilities:		
Non-Current Liabilities	8,700	8,700
Shareholders’ Equity:		
Common stock, \$0.001 par value; 350,000,000 shares authorized, 2,811,258 issued and 2,782,449 outstanding actual and 9,629,438 issued and 9,600,629 outstanding as adjusted	3	10
Additional paid-in capital	355,501	362,119
Treasury stock at cost, 28,809 shares	(288)	(288)
Accumulated other comprehensive (loss) income	(1,178)	(1,178)
Accumulated deficit	(334,971)	(334,971)
Total shareholders’ equity	\$ 19,067	\$ 25,692
Total capitalization	\$ 27,767	\$ 34,392

DILUTION

Our net tangible book value as of December 31, 2024 was approximately \$1.709 million, or \$0.614 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our Common Stock outstanding as of December 31, 2024. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of Common Stock in this offering and the net tangible book value per share of our Common Stock immediately after this offering.

After giving effect to the sale in this offering of 1,990,900 shares of Common Stock and 4,827,280 Pre-Funded Warrants at an offering price of \$1.10 per share of Common Stock and accompanying Common Warrant and \$1.099 per Pre-Funded Warrant and accompanying Common Warrant, assuming the exercise in full of Pre-Funded Warrants issued in this offering and no exercise of any Common Warrants, and after deducting the Placement Agent fees and estimated offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2024 would have been approximately \$8.334 million, or \$0.868 per share. This represents an immediate increase in as adjusted net tangible book value of \$0.254 per share to existing stockholders and an immediate dilution of \$0.232 per share to new investors purchasing securities in this offering. The following table illustrates this per share dilution:

Public offering price per share of Common Stock and accompanying Common Warrant	\$	1.10
Net tangible book value per share as of December 31, 2024	\$	0.614
Increase in net tangible book value per share attributable to this offering	\$	0.254
As adjusted net tangible book value per share as of December 31, 2024, after giving effect to this offering	\$	0.868
Dilution per share to new investors purchasing our Common Stock in this offering	\$	0.232

DESCRIPTION OF SECURITIES TO BE REGISTERED

We are offering 1,990,900 shares of Common Stock and Pre-Funded Warrants to purchase up to 4,827,280 shares of Common Stock, along with Common Warrants to purchase up to an aggregate of 6,818,180 shares of Common Stock. Each share of Common Stock or Pre-Funded Warrant is being sold together with a Common Warrant to purchase one share of Common Stock. The shares of Common Stock or Pre-Funded Warrants and accompanying Common Warrants will be issued separately. We are also registering the shares of Common Stock issuable from time to time upon exercise of the Pre-Funded Warrants offered hereby and the Common Warrants offered hereby.

Common Stock. See the description above under “Description of Capital Stock—Common Stock.”

Common Warrants to be Issued in this Offering

The following summary of certain terms and provisions of the Common Warrants included with the Common Stock that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the Common Warrants, the form of which is filed as an exhibit to our registration statement of which this prospectus forms a part.

Duration and Exercise Price

Each Common Warrant offered hereby will be a warrant to purchase one share of Common Stock and will have an initial exercise price equal to \$1.10 per share. The Common Warrants will be exercisable immediately upon issuance and will expire five years from the date of issuance. The exercise price and number of shares of Common Stock issuable upon exercise is subject to appropriate adjustment in the event of share dividends, share splits, reorganizations or similar events affecting the Common Stock and the exercise price. Subject to the rules and regulations of the applicable trading market, we may at any time during the term of the Common Warrant, subject to the prior written consent of the holders, reduce the then current exercise price to any amount and for any period of time deemed appropriate by our board of directors. The Common Warrants will be issued separately from the shares of Common Stock, or the Pre-Funded Warrants, as the case may be.

Exercisability

The Common Warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of Common Stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the Common Warrant to the extent that the holder would own more than 4.99% of the outstanding shares of our common warrant immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of beneficial ownership of outstanding shares after exercising the holder's Common Warrants up to 9.99% of the number of our shares of Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Common Warrants. Purchasers of Common Warrants in this offering may also elect prior to the issuance of the Common Warrants to have the initial exercise limitation set at 9.99% of our outstanding shares.

PLAN OF DISTRIBUTION

A.G.P./Alliance Global Partners has agreed to act as our sole Placement Agent in connection with this offering subject to the terms and conditions of the placement agency agreement dated May 7, 2025. The Placement Agent is not purchasing or selling any of the securities offered by this prospectus, nor is it required to arrange for the purchase and sale of any specific number or dollar amount of such securities, other than to use its reasonable “best efforts” to arrange for the sale of such securities by us. Therefore, we may not sell all of the securities being offered pursuant to this prospectus. The securities will be offered at a fixed price and are expected to be issued in a single closing. We will enter into a securities purchase agreement directly with certain investors, at the investor’s option, who purchase our securities in this offering. Investors who do not enter into a securities purchase agreement shall rely solely on this prospectus in connection with the purchase of our securities in this offering.

We will deliver the securities being issued to the investors upon receipt of investor funds for the purchase of the securities offered pursuant to this prospectus. We expect to deliver the securities being offered pursuant to this prospectus on or about May 8, 2025.

Fees and Expenses

We have agreed to pay the Placement Agent an aggregate fee equal to 7.0% of the purchase price paid by all purchasers in this offering. In addition, we have agreed to reimburse the Placement Agent for its legal fees in an amount up to \$85,000 and non-accountable expenses of up to \$15,000.

We estimate the total expenses of this offering paid or payable by us, exclusive of the placement agent fee and reimbursements, will be approximately \$250,000. After deducting the fees due to the Placement Agent and our estimated expenses in connection with this offering, we expect the net proceeds from this offering will be approximately \$6.625 million.

The following table shows the per share and total cash fees we will pay to the Placement Agent in connection with the sale of the securities pursuant to this prospectus.

	Per Share of Common Stock and Accompanyin g Common Warrant	Per Pre- Funded Warrant and Accompanyin g Common Warrant	Total
Public offering price ⁽¹⁾	\$ 1.10	\$ 1.099	\$ 7,495,170.72
Placement agent fees	\$ 0.077	\$ 0.07693	\$ 524,661.9504
Proceeds before expenses to us ⁽²⁾	\$ 1.023	\$ 1.02207	\$ 6,970,508.7696

(1) The combined public offering price is \$1.10 per share of Common Stock and accompanying Common Warrant and \$1.099 per Pre-Funded Warrant and accompanying Common Warrant.

(2) Does not include proceeds from the exercise of the Pre-Funded Warrants or Common Warrants in cash, if any.

Regulation M

The Placement Agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the shares sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the Placement Agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares by the Placement Agent acting as principal. Under these rules and regulations, the placement agents:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

Discretionary Accounts

The Placement Agent does not intend to confirm sales of the securities offered hereby to any accounts over which it has discretionary authority.

Other Activities and Relationships

The Placement Agent and certain of its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The Placement Agent and certain of its affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses. For example, A.G.P./Alliance Global Partners was the placement agent for our public offering that was consummated on September 27, 2024 and received a fee of 7% of the gross proceeds of such offering plus an expense reimbursement of \$100,000 and is the sales agent under the ATM Sales Agreement. Under the ATM Sales Agreement, we may offer and sell, from time to time, shares of Common Stock through A.G.P./Alliance Global Partners in an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act.

In the ordinary course of its various business activities, the Placement Agent and certain of its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for its own account and for the accounts of its customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the Placement Agent or its affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The Placement Agent and its affiliates may hedge such exposure by entering into transactions that consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the Common Stock offered hereby. Any such short positions could adversely affect future trading prices of the Common Stock offered hereby. The Placement Agent and certain of its affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.



1,990,900 Shares of Common Stock
6,818,180 Common Warrants to Purchase Up to 6,818,180 Shares of Common Stock
4,827,280 Pre-Funded Warrants to Purchase Up to 4,827,280 Shares of Common Stock
11,645,460 Shares of Common Stock Underlying the Common Warrants and Pre-Funded Warrants

PROSPECTUS

Sole Placement Agent

A.G.P.

May 7, 2025

UNITED STATES
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): May 7, 2025

THERIVA BIOLOGICS, INC.

(Exact name of registrant as specified in its charter)

Nevada

(State or other jurisdiction of
incorporation)

001-12584

(Commission File No.)

13-3808303

(IRS Employer Identification
No.)

**9605 Medical Center Drive, Suite 270
Rockville, Maryland 20850**

(Address of principal executive offices and zip code)

(301) 417-4364

Registrant's telephone number, including area code

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 (see General Instruction A.2. below):

- .. Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- .. Soliciting material pursuant to Rule 14a-12(b) 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))

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, par value \$0.001 per share	TOVX	NYSE American

Indicate by check mark whether the registrant is an emerging growth company as defined in in Rule 405 of the Securities Act of 1933 (17 CFR §230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2 of this chapter).

Emerging growth company ..

If an emerging growth company, indicate by checkmark 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. ..

Item 1.01. Entry into a Material Definitive Agreement.

On May 8, 2025 (the “Closing Date”), Theriva Biologics, Inc. (the “Company”) consummated a public offering (the “Offering”) of an aggregate of (i) 1,990,900 shares (the “Shares”) of common stock, par value \$0.001 per share (the “Common Stock”), (ii) pre-funded warrants (“Pre-Funded Warrants”) to purchase up to 4,827,280 shares of Common Stock (the “Pre-Funded Warrant Shares”), and (iii) Common Stock purchase warrants (“Common Warrants”) to purchase up to 6,818,180 shares of Common Stock (the “Common Warrant Shares”). Each Share and associated Common Warrant to purchase one (1) Common Warrant Share was sold at a combined public offering price of \$1.10. Each Pre-Funded Warrant and associated Common Warrant to purchase one (1) Common Warrant Share was sold at a combined public offering price of \$1.099.

The Company received aggregate gross proceeds from the Offering of approximately \$7.5 million, before deducting placement agent fees and other offering expenses. The Company intends to use the proceeds of the Offering primarily for working capital and general corporate purposes, including for research and development and manufacturing scale-up and may use a portion of the proceeds to invest in or acquire other products, businesses or technologies.

The Securities Offered

Each Pre-Funded Warrant is immediately exercisable for one (1) Pre-Funded Warrant Shares at an exercise price of \$0.001 per share and will remain exercisable until such Pre-Funded Warrant is exercised in full. Each Common Warrant has an exercise price of \$1.10 per Common Warrant Share, is immediately exercisable, and expires five (5) years from its issuance date.

The Shares, Pre-Funded Warrants and accompanying Common Warrants were issued separately.

The exercise price of the Common Warrants and the Pre-Funded Warrants and number of shares of Common Stock issuable upon exercise will be adjusted in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events. In the event of a fundamental transaction, as described in each of the Common Warrants and the Pre-Funded Warrants, the holders of the such warrants will be entitled to receive upon exercise of their respective warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised their warrants immediately prior to such fundamental transaction. In addition, in certain circumstances, upon a fundamental transaction, a holder of Common Warrants will have the right to require us to repurchase its Common Warrants at the Black Scholes Value; provided, however, that, if the fundamental transaction is not within the Company’s control, including not approved by the Company’s board of directors, then the holder shall only be entitled to receive the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of the Common Warrant, that is being offered and paid to the holders of common stock in connection with the fundamental transaction.

The Common Warrants may be exercised on a cashless basis if at the time of exercise thereof there is no effective registration statement registering, or the prospectus contained therein is not available for, the issuance of the Common Warrant Shares to the holder. The Pre-Funded Warrants may be exercised on a cashless basis at any time.

A holder of the Common Warrants and the Pre-Funded Warrants (together with its affiliates) may not exercise any portion of the Common Warrant or Pre-Funded Warrant to the extent that the holder would own more than 4.99% (or 9.99%, at the election of the holder) of the outstanding shares of Common Stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to the Company, the holder may increase the amount of beneficial ownership of outstanding shares after exercising the holder's Common Warrants or Pre-Funded Warrants up to 9.99% of the number of the Company's shares of Common Stock outstanding immediately after giving effect to the exercise.

The Shares, the Common Warrants, the Common Warrant Shares, the Pre-Funded Warrants and the Pre-Funded Warrant Shares were offered and sold by the Company pursuant to the Company's Registration Statement on Form S-1 (File No. 333-283722), filed by the Company with the U.S. Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "Securities Act") that became effective on May 7, 2025.

The foregoing does not purport to be a complete description of each of the Common Warrants or the Pre-Funded Warrants, and is qualified in its entirety by reference to the full text of each of such document, which are filed as Exhibits 4.1 and 4.2, respectively, to this Current Report on Form 8-K (this "Form 8-K") and incorporated herein by reference.

The Securities Purchase Agreement

In connection with the Offering, on May 7, 2025, the Company entered into a securities purchase agreement (the "Purchase Agreement") with certain investors, pursuant to which the Company agreed not to effect or enter into an agreement to effect any issuance by the Company or any of its subsidiaries of shares of Common Stock or Common Stock equivalents for a period of ninety (90) days and will not directly or indirectly offer to sell, sell, grant any option to sell or otherwise dispose of shares of its Common Stock or any securities convertible into, exercisable or exchangeable for its shares of Common Stock in any "at-the-market," continuous equity, equity lines, or variable rate transaction, for a period of six (6) months after the Closing Date of the Offering, provided that the foregoing shall not apply, (x) following the seventy-five (75) day anniversary of the Closing Date, to sales under the "at-the-market" offering in which the Placement Agent (as defined below) is the sales agent, pursuant to the Amended and Restated Sales Agreement dated February 9, 2021, as amended, by and between the Company and the Placement Agent or (y) following the forty-five (45) day anniversary of the Closing Date, to the filing of a prospectus supplement with respect to such sales.

The foregoing does not purport to be a complete description of the Purchase Agreement and is qualified in its entirety by reference to the full text of such document, which is filed as Exhibit 10.1 to this Form 8-K and incorporated herein by reference.

The Placement Agent Agreement

Also, in connection with the Offering, on May 7, 2025, the Company entered into a placement agency agreement (the "Placement Agency Agreement") with A.G.P./Alliance Global Partners (the "Placement Agent"), pursuant to which the Placement Agent agreed to act as placement agent on a "reasonable best efforts" basis in connection with the Offering. The Company paid the Placement Agent an aggregate fee equal to 7.0% of the gross proceeds raised in the Offering. Further, the Company agreed to reimburse the Placement Agent up to an aggregate of \$100,000 for accountable legal fees, other reasonable and documented out-of-pocket expenses, and non-accountable expenses.

The Placement Agency Agreement and the Purchase Agreement each contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company, the Placement Agent, or the purchasers in the Offering, as the case may be, other obligations of the parties and termination provisions. In addition, pursuant to the terms of the Placement Agency Agreement, the Company and its executive officers and directors have entered into agreements providing that the Company (for a period of ninety (90) days from the date of the Placement Agency Agreement) and each such person (for a period of ninety (90) days from the date of the Placement Agency Agreement) may not, subject to customary exceptions, offer, issue, sell, transfer or otherwise dispose of the Company's securities without the prior written consent of the Placement Agent. The Placement Agency Agreement also provides that for a period of six (6) months after the Offering the Company will not directly or indirectly offer to sell, sell, grant any option to sell or otherwise dispose of shares of its Common Stock or any securities convertible into, exercisable or exchangeable for its shares of Common Stock in any "at-the-market," continuous equity, equity lines, or variable rate transaction, without the prior written consent of the Placement Agent, provided that the foregoing shall not apply, (x) seventy-five (75) days after the Closing Date, to the "at-the-market" offering with the Placement Agent as sales agent Agent or (y) following the forty-five (45) day anniversary of the Closing Date, to the filing of a prospectus supplement with respect to such sales.

The foregoing does not purport to be a complete description of the Placement Agency Agreement and is qualified in its entirety by reference to the full text of such document, which is filed as Exhibit 1.1 to this Form 8-K and incorporated herein by reference.

Item 8.01. Other Events

The Company issued a press release announcing the pricing of the Offering on May 7, 2025 and a press release announcing the closing of the Offering on May 8, 2025. Copies of the press releases are filed herewith as Exhibit 99.1 and Exhibit 99.2, respectively, and are incorporated by reference herein.

As of the date of this Current Report on Form 8-K, after the closing of the Offering and assuming no exercise of the Pre-Funded Warrants or Common Warrants, there are 4,773,358 shares of Common Stock outstanding.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit Number	Description
1.1*	Placement Agency Agreement, dated as of May 7, 2025, by and between Theriva Biologics, Inc. and A.G.P./Alliance Global Partners, as placement agent.
4.1*	Form of Common Warrant
4.2*	Form of Pre-Funded Warrant
10.1*	Form of Securities Purchase Agreement
99.1*	Press Release dated May 7, 2025
99.2*	Press Release dated May 8, 2025
104	Cover Page Interactive Data File (embedded within the XBRL document)

* Filed herewith.

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: May 8, 2025

THERIVA BIOLOGICS, INC.

By: /s/ Steven A. Shallcross

Name Steven A. Shallcross

:

Title: Chief Executive Officer and
Chief Financial Officer

PLACEMENT AGENCY AGREEMENT

May 7, 2025

Theriva Biologics, Inc.
9605 Medical Center Drive, Suite 270
Rockville, MD 20850
Attention: Steven A. Shallcross

Dear Mr. Shallcross:

This letter (the “**Agreement**”) constitutes the agreement between A.G.P./Alliance Global Partners, as placement agent (the “**Placement Agent**”), and Theriva Biologics, Inc., a company incorporated under the laws of the State of Nevada (the “**Company**”), that the Placement Agent shall serve as the exclusive placement agent for the Company, on a “reasonable best efforts” basis, in connection with the proposed placement (the “**Placement**”) of (i) shares (the “**Shares**”) of the Company’s common stock, par value \$0.001 per share (the “**Common Stock**”), (ii) warrants to purchase shares of Common Stock of the Company (the “**Common Warrants**”), and/or (iii) pre-funded warrants to purchase shares of Common Stock (the “**Pre-Funded Warrants**”, and together with the Common Warrants, the “**Warrants**,” and collectively with the Shares, the “**Securities**”), depending on the beneficial ownership percentage of the purchaser of the Common Stock following its purchase. The Shares, Common Warrants and Pre-Funded Warrants, along with the shares of Common Stock underlying the Pre-Funded Warrants and Common Warrants shall be offered and sold under the Company’s registration statement on Form S-1 (File No. 333-283722) (the “**Registration Statement**”). The Securities actually placed by the Placement Agent are referred to herein as the “**Placement Agent Securities**.”

The terms of the Placement shall be mutually agreed upon by the Company and the purchasers (each, a “**Purchaser**” and collectively, the “**Purchasers**”); *provided, however*, that nothing herein shall obligate the Company to issue any Securities or complete the Placement. The Company expressly acknowledges and agrees that the Placement Agent’s obligations hereunder are on a reasonable best efforts basis only and that the execution of this Agreement does not constitute a commitment by the Placement Agent to purchase the Securities and does not ensure the successful placement of the Securities or any portion thereof or the success of the Placement Agent with respect to securing any other financing on behalf of the Company. The Placement Agent may retain other brokers or dealers to act as sub-agents or selected-dealers on its behalf in connection with the Placement. Certain affiliates of the Placement Agent may participate in the Placement by purchasing some of the Placement Agent Securities. The sale of Placement Agent Securities to any Purchaser will be evidenced by a securities purchase agreement (the “**Purchase Agreement**”) between the Company and such Purchaser, in a form reasonably acceptable to the Company and the Purchaser. Capitalized terms that are not otherwise defined herein have the meanings given to such terms in the Purchase Agreement. Prior to the signing of any Purchase Agreement, officers of the Company will be available to answer inquiries from prospective Purchasers.

SECTION 1. REPRESENTATIONS AND WARRANTIES OF THE COMPANY; COVENANTS OF THE COMPANY.

A. Representations of the Company. With respect to the Placement Agent Securities, each of the representations and warranties (together with any related disclosure schedules thereto) and covenants made by the Company to the Purchasers in the Purchase Agreement in connection with the Placement, is hereby incorporated herein by reference into this Agreement (as though fully restated herein) and is, as of the date of this Agreement and as of the Closing Date, hereby made to, and in favor of, the Placement Agent. In addition to the foregoing, the Company represents and warrants that there are no affiliations with any FINRA member firm among the Company’s officers, directors or, to the knowledge of the Company, any five percent (5.0%) or greater stockholder of the Company, except as set forth in the Purchase Agreement, the FINRA questionnaires and SEC Reports.

B. Covenants of the Company. The Company covenants and agrees to continue to retain (i) an independent public accounting firm registered with the Public Company Accounting Oversight Board (the “PCAOB”) for a period of at least three (3) years after the Closing Date and (ii) a competent transfer agent with respect to the Placement Agent Securities for a period of three (3) years after the Closing Date. In addition, from the date hereof until ninety (90) days after the Closing Date, subject to certain exceptions provided for in the Purchase Agreement, neither the Company nor any Subsidiary shall issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or Common Stock Equivalents, except that such restriction shall not apply with respect to an Exempt Issuance (as defined in the Purchase Agreement). In addition, from the date hereof until six (6) months after the Closing Date, neither the Company nor any Subsidiary shall effect or enter into an agreement to effect any issuance by the Company or any of its Subsidiaries of shares of Common Stock or Common Stock Equivalents (as defined in the Purchase Agreement) (or a combination of units thereof) involving a Variable Rate Transaction (as defined in the Purchase Agreement). The foregoing shall not apply, (i) forty-five (45) days after the Closing Date, to the filing of a prospectus supplement with respect to sales under the “at-the-market” offering with the Placement Agent as sales agent, pursuant to the Amended and Restated At Market Issuance Sales Agreement, dated February 9, 2021, between the Company and the Placement Agent, as amended by Amendment No. 1 thereto, dated May 3, 2021, and Amendment No. 2 thereto, dated May 2, 2024 (the “Sales Agreement”) and (ii) seventy-five (75) days after the Closing Date, to the sale and issuance of securities in an at-the-market offering pursuant to the Sales Agreement.

SECTION 2. REPRESENTATIONS OF THE PLACEMENT AGENT. The Placement Agent represents and warrants that it (i) is a member in good standing of FINRA, (ii) is registered as a broker/dealer under the Exchange Act, (iii) is licensed as a broker/dealer under the laws of the United States of America, applicable to the offers and sales of the Placement Agent Securities by the Placement Agent, (iv) is and will be a corporate body validly existing under the laws of its place of incorporation, and (v) has full power and authority to enter into and perform its obligations under this Agreement. The Placement Agent will immediately notify the Company in writing of any change in its status with respect to subsections (i) through (v) above. The Placement Agent covenants that it will use its reasonable best efforts to conduct the Placement hereunder in compliance with the provisions of this Agreement and the requirements of applicable law.

SECTION 3. COMPENSATION AND EXPENSES.

A. In consideration of the services to be provided for hereunder, the Company shall pay to the Placement Agent or its respective designees a total cash fee equal to seven percent (7.0%) of the gross proceeds from the total amount of Placement Agent Securities sold in the Placement (the “Cash Fee”). The Cash Fee shall be paid on the Closing Date. The Company shall not be required to pay the Placement Agent any fees or expenses except for the Cash Fee and the reimbursement of (i) accountable legal fees and other reasonable and documented out-of-pocket expenses incurred by the Placement Agent in connection with the transaction in the amount of up to \$85,000 and (ii) non-accountable expenses equal to \$15,000. The Placement Agent reserves the right to reduce any item of compensation or adjust the terms thereof as specified herein in the event that a determination shall be made by FINRA to the effect that the Placement Agent’s aggregate compensation is in excess of FINRA Rules or that the terms thereof require adjustment. Notwithstanding the foregoing, upon a termination of this Agreement the fees owed by the Company under this paragraph 3.A. shall be reduced to a maximum of \$25,000.

B. The Company agrees to pay all costs, fees and expenses incurred by the Company in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including, without limitation: (i) all expenses incident to the issuance, delivery and qualification of the Placement Agent Securities (including all printing and engraving costs); (ii) all fees and expenses of the registrar and transfer agent of the Shares; (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Placement Agent Securities; (iv) all fees and expenses of the Company’s counsel, independent public or certified public accountants and other advisors; (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Preliminary Prospectus and the Prospectus, and all amendments and supplements thereto, and this Agreement; (vi) all filing fees, reasonable attorneys’ fees and expenses incurred by the Company in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Placement Agent Securities for offer and sale under the state securities or blue sky laws or the securities laws of any other country; and (vii) the fees and expenses associated with including the Placement Agent Securities on the Trading Market.

G. The Placement Agent shall have received customary certificates of the Company's executive officers (the "**Officer's Certificate**") as to the accuracy of the representations and warranties contained in the Purchase Agreement, and a certificate of the Company's secretary (the "**Secretary's Certificate**") certifying (i) that the Company's organizational documents are true and complete, have not been modified and are in full force and effect; (ii) that the resolutions of the Company's Board of Directors relating to the Placement are in full force and effect and have not been modified; and (iii) as to the incumbency of the officers of the Company. Each of the Officer's Certificate and Secretary's Certificate shall be dated as of the Closing Date, and all documents referenced in the Secretary's Certificate shall be attached thereto.

H. The Placement Agent shall have received an executed Lock-Up Agreement from each of the Company's directors, officers and 5% stockholders prior to the Closing Date.

I. On the date hereof, the Placement Agent shall have received, a letter from BDO USA, P.C (the independent registered public accounting firm of the Company), addressed to the Placement Agent, dated as of the date hereof, and a bring-down "comfort letter" addressed to the Placement Agent on the Closing Date, each in form and substance satisfactory to the Placement Agent. The letters shall not disclose any change in the condition (financial or other), earnings, operations or business of the Company, which, in the Placement Agent's sole judgment, is material and adverse and that makes it, in the Placement Agent's sole judgment, impracticable or inadvisable to proceed with the Placement of the Securities.

If any of the conditions specified in this Section 8 shall not have been fulfilled when and as required by this Agreement, all obligations of the Placement Agent hereunder may be cancelled by the Placement Agent at, or at any time prior to, the Closing Date. Notice of such cancellation shall be given to the Company in writing or orally. Any such oral notice shall be confirmed promptly thereafter in writing.

SECTION 9. GOVERNING LAW. This Agreement will be governed by, and construed in accordance with, the laws of the State of New York applicable to agreements made and to be performed entirely in such State. This Agreement may not be assigned by either party without the prior written consent of the other party. This Agreement shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and permitted assigns. Any right to trial by jury with respect to any dispute arising under this Agreement or any transaction or conduct in connection herewith is waived. Any dispute arising under this Agreement may be brought into the courts of the State of New York or into the Federal Court located in New York, New York and, by execution and delivery of this Agreement, the Company hereby accepts for itself and in respect of its property, generally and unconditionally, the jurisdiction of aforesaid courts. Each party hereto hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by delivering a copy thereof via overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. If either party shall commence an action or proceeding to enforce any provisions of this Agreement, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorney's fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

SECTION 10. ENTIRE AGREEMENT/MISCELLANEOUS. This Agreement embodies the entire agreement and understanding between the parties hereto, and supersedes all prior agreements and understandings, relating to the subject matter hereof. If any provision of this Agreement is determined to be invalid or unenforceable in any respect, such determination will not affect such provision in any other respect or any other provision of this Agreement, which will remain in full force and effect. This Agreement may not be amended or otherwise modified or waived except by an instrument in writing signed by the Placement Agent and the Company. The representations, warranties, agreements and covenants contained herein shall survive the Closing Date of the Placement and delivery of the Placement Agent Securities. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or a .pdf format file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or .pdf signature page were an original thereof.

SECTION 11. NOTICES. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of (a) the date of transmission, if such notice or communication is sent to the email address specified on the signature pages attached hereto prior to 6:30 p.m. (New York City time) on a business day, (b) the next business day after the date of transmission, if such notice or communication is sent to the email address on the signature pages attached hereto on a day that is not a business day or later than 6:30 p.m. (New York City time) on any business day, (c) the third business day following the date of mailing, if sent by U.S. internationally recognized air courier service, or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages hereto.

SECTION 12. PRESS ANNOUNCEMENTS. The Company agrees that the Placement Agent shall, on and after the Closing Date, have the right to reference the Placement and the Placement Agent's role in connection therewith in the Placement Agent's marketing materials and on its website and to place advertisements in financial and other newspapers and journals, in each case at its own expense.

[The remainder of this page has been intentionally left blank.]

Please confirm that the foregoing correctly sets forth our agreement by signing and returning to the Placement Agents the enclosed copy of this Agreement.

Very truly yours,

A.G.P./ALLIANCE GLOBAL PARTNERS

By: /s/ Thomas Higgins

Name Thomas Higgins

:

Title: Managing Director

Address for notice:

590 Madison Avenue 28th Floor New York,
New York 10022

Attn: Thomas Higgins

Email: [•]

[Signature Page to Placement Agency Agreement.]

Accepted and Agreed to as of
the date first written above:

THERIVA BIOLOGICS, INC.

By: /s/ Steven A. Shallcross

Name Steven A. Shallcross

:

Title: Chief Executive Officer and
Chief Financial Officer

Address for notice:

9605 Medical Center Drive, Suite 270

Rockville, MD 20850

Attention: Steven Shallcross

Email: [•]

[Signature Page to Placement Agency Agreement.]

SECURITIES PURCHASE AGREEMENT

This SECURITIES PURCHASE AGREEMENT (this “Agreement”) is dated as of May 7, 2025, between Theriva Biologics, Inc., a Nevada corporation (the “Company”), and each purchaser identified on the signature pages hereto (each, including its successors and assigns, a “Purchaser” and collectively the “Purchasers”).

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to an effective registration statement under the Securities Act (as defined below), the Company desires to issue and sell to each Purchaser, and each Purchaser, severally and not jointly, desires to purchase from the Company, securities of the Company as more fully described in this Agreement.

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration the receipt and adequacy of which are hereby acknowledged, the Company and each Purchaser agree as follows:

Section 1.
DEFINITIONS

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1.1:

“Acquiring Person” shall have the meaning ascribed to such term in Section 4.5.

“Action” shall have the meaning ascribed to such term in Section 3.1(j).

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act.

“Board of Directors” means the board of directors of the Company.

“Business Day” means any day other than Saturday, Sunday, or other day on which banking institutions in the State of New York are authorized or required by law to remain closed.

“Closing” means the closing of the purchase and sale of the Securities pursuant to Section 2.1.

“Closing Date” means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto, and all conditions precedent to (i) the Purchasers’ obligations to pay the Subscription Amount at the Closing and (ii) the Company’s obligations to deliver the Securities, in each case, at the Closing have been satisfied or waived, but in no event later than the second (2nd) Trading Day following the date hereof.

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the common stock of the Company, par value \$0.001 per share.

“Common Stock Equivalents” means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Common Warrants” means the common warrants delivered to the Purchasers at Closing in accordance with Section 2.2(a) hereof, which common warrants shall be exercisable immediately upon issuance and may be exercised during a period of five years commencing from their issuance, in the form of Exhibit A attached hereto.

“Company Counsel” means Blank Rome LLP, with offices located at 1271 Avenue of The Americas, New York, NY 10020.

“Company Nevada Counsel” means Parsons Behle & Latimer, with offices located at 50 West Liberty Street, Suite 750, Reno, Nevada 89501.

“Disclosure Schedules” means the Disclosure Schedules of the Company delivered concurrently herewith.

“Disclosure Time” means, (i) if this Agreement is signed on a day that is not a Trading Day or after 9:00 a.m. (New York City time) and before midnight (New York City time) on any Trading Day, 9:01 a.m. (New York City time) on the Trading Day immediately following the date hereof, unless otherwise instructed as to an earlier time by the Placement Agent, and (ii) if this Agreement is signed between midnight (New York City time) and 9:00 a.m. (New York City time) on any Trading Day, no later than 9:01 a.m. (New York City time) on the date hereof, unless otherwise instructed as to an earlier time by the Placement Agent.

“DVP” shall have the meaning ascribed to such term in Section 2.1(v).

“Evaluation Date” shall have the meaning ascribed to such term in Section 3.1(r).

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exempt Issuance” means the issuance of (a) shares of Common Stock, restricted stock units or options, including the shares of Common Stock underlying the restricted stock units or options, to employees, officers, directors or consultants of the Company or its subsidiary pursuant to any stock or option plan or arrangement duly adopted for such purpose by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company provided that such securities issued to consultants are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period in Section 4.10(a) herein, (b) securities upon the exercise or exchange of or conversion of any Securities issued hereunder and/or other securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, *provided* that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations or anti-dilution provisions contained therein as disclosed in the SEC Reports and the Prospectus) or to extend the term of such securities, (c) securities pursuant to merger, acquisition or strategic transactions approved by a majority of the disinterested directors of the Company, *provided* that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period in Section 4.10(a) herein, and *provided further* that any such issuance shall only be to a Person that is, itself or through its subsidiaries, an operating company in a business synergistic with the business of the Company and in which the Company receives benefits in addition to any investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, and (d) securities for settlement of outstanding payables or liabilities *provided* that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period in Section 4.10(a) herein.

“FCPA” means the Foreign Corrupt Practices Act of 1977, as amended.

“GAAP” means generally accepted accounting principles in the United States.

“General Disclosure Package” means the Preliminary Prospectus, the Prospectus, and the Registration Statement.

“Indebtedness” shall have the meaning ascribed to such term in Section 3.1(z).

“Intellectual Property Rights” shall have the meaning ascribed to such term in Section 3.1(p).

“Liens” means a lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

“Lock-Up Agreements” means each Lock-Up Agreement, dated as of the date hereof, by and between the Company and each of the directors, officers and 5% stockholders of the Company, in the form of Exhibit C attached hereto.

“Material Adverse Effect” shall have the meaning assigned to such term in Section 3.1(b).

“Material Permits” shall have the meaning ascribed to such term in Section 3.1(m).

“Per Share Purchase Price” equals \$1.10, subject to adjustment for reverse and forward share splits, share dividends, share combinations and other similar transactions of shares of Common Stock that occur between the date hereof and the Closing Date.

“Per Pre-Funded Warrant Purchase Price” equals \$0.001, subject to adjustment for reverse and forward share splits, share dividends, share combinations and other similar transactions relating to shares of Common Stock that occur after the date of this Agreement.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Placement Agent” means A.G.P./Alliance Global Partners.

“Placement Agent Counsel” means Thompson Hine LLP with offices located at 300 Madison Ave, 27th Floor, New York, New York 10017.

“Pre-Funded Warrants” means, collectively, the warrants delivered to the Purchasers at Closing in accordance with Section 2.2(a) hereof, which Pre-Funded Warrants shall be exercisable immediately upon issuance and shall expire when exercised in full, in the form of Exhibit B attached hereto.

“Pre-Notice” shall have the meaning ascribed to such term in Section 4.16(b).

“Preliminary Prospectus” means the preliminary prospectus included in the Registration Statement at the time the Registration Statement is declared effective.

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened.

“Prospectus” means the final prospectus filed pursuant to the Registration Statement.

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.8.

“Registration Statement” means the effective registration statement with the Commission on Form S-1 (File No. 333-283722), as amended, which registers the sale of the Securities and includes any Rule 462(b) Registration Statement.

“Required Approvals” shall have the meaning ascribed to such term in Section 3.1(e).

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 424” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 462(b) Registration Statement” means any registration statement prepared by the Company registering additional Securities, which was filed with the Commission on or prior to the date hereof and became automatically effective pursuant to Rule 462(b) promulgated by the Commission pursuant to the Securities Act.

“SEC Reports” shall have the meaning ascribed to such term in Section 3.1(h).

“Securities” means the Shares, the Warrants, and the Warrant Shares.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Shares” means the shares of Common Stock issued and issuable to each Purchaser pursuant to this Agreement.

“Short Sales” means all “short sales” as defined in Rule 200 of Regulation SHO under the Exchange Act (but shall not be deemed to include locating and/or borrowing shares of Common Stock).

“Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for shares of Common Stock, and Pre-Funded Warrants, purchased hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsidiary” means any significant subsidiary of the Company as set forth in the Exhibit 21.1 to the Company’s Annual Report on Form 10-K for the year ended December 31, 2023 and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the shares of Common Stock are listed or quoted for trading on the date in question: the NYSE American, The Nasdaq Capital Market, The Nasdaq Global Market, The Nasdaq Global Select Market, or the New York Stock Exchange (or any successors to any of the foregoing).

“Transaction Documents” means this Agreement, the Warrants, the Lock-Up Agreements and all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated hereunder.

“Variable Rate Transaction” shall have the meaning ascribed to such term in Section 4.10(b).

“Warrants” means, collectively, the Common Warrants and the Pre-Funded Warrants.

“Warrant Shares” means, collectively, the shares of Common Stock issuable upon exercise of the Warrants.

Section 2. **PURCHASE AND SALE**

2.1 Closing. On the Closing Date, upon the terms and subject to the conditions set forth herein, the Company agrees to sell, and the Purchasers, severally and not jointly, agree to purchase, (i) the number of shares of Common Stock set forth under the heading “Subscription Amount” on the Purchaser’s signature page hereto, at the Per Share Purchase Price, and (ii) Common Warrants exercisable for shares of Common Stock as calculated pursuant to Section 2.2(a); *provided, however*, that, to the extent that a Purchaser determines, in its sole discretion, that such Purchaser (together with such Purchaser’s Affiliates, and any Person acting as a group together with such Purchaser or any of such Purchaser’s Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation, or as such Purchaser may otherwise choose, in lieu of purchasing shares of Common Stock, such Purchaser may elect to purchase Pre-Funded Warrants in such manner to result in the full Subscription Amount being paid by such Purchaser to the Company. The “Beneficial Ownership Limitation” shall be 4.99% (or, at the election of the Purchaser, 9.99%) of the number of shares of Common Stock, in each case, outstanding immediately after giving effect to the issuance of the Securities on the Closing Date.

- (iii) subject to the provision of Section 2.1 that settlement of the Shares shall occur via DVP, a copy of the irrevocable instructions to the Transfer Agent instructing the Transfer Agent to deliver on an expedited basis via The Depository Trust Company Deposit or Withdrawal at Custodian system shares of Common Stock equal to the portion of such Purchaser's Subscription Amount divided by the Per Share Purchase Price, registered in the name of such Purchaser;
 - (iv) for each Purchaser of Pre-Funded Warrants pursuant to Section 2.1, a Pre-Funded Warrant registered in the name of such Purchaser to purchase up to a number of shares of Common Stock equal to the portion of such Purchaser's Subscription Amount applicable to Pre-Funded Warrants divided by the sum of the Per Pre-Funded Warrant Purchase Price, subject to adjustment therein;
 - (v) the Preliminary Prospectus and the Prospectus (which may be delivered in accordance with Rule 172 under the Securities Act);
 - (vi) a Common Warrant with an exercise price equal to \$1.10, registered in the name of such Purchaser, to purchase up to a number of shares of Common Stock equal to 100% of such Purchaser's shares of Common Stock, or a Pre-Funded Warrants, as applicable, with an exercise price equal to \$0.001 per share, subject to adjustment therein;
 - (vii) the duly executed Lock-Up Agreements;
 - (viii) a legal opinion of Company Counsel, in form reasonably acceptable to the Placement Agent and the Purchasers; and
 - (ix) a legal opinion of Company Nevada Counsel, in form reasonably acceptable to the Placement Agent and the Purchasers.
- (b) On or prior to the Closing Date, each Purchaser shall deliver or cause to be delivered to the Company, the following:
- (i) this Agreement duly executed by such Purchaser; and
 - (ii) such Purchaser's Subscription Amount with respect to the Securities purchased by such Purchaser, which shall be made available for DVP settlement with the Company or its designees.

2.3 Closing Conditions.

- (a) The obligations of the Company hereunder in connection with the Closing are subject to the following conditions being met:
- (i) the accuracy in all material respects (or, to the extent representations or warranties are qualified by materiality or Material Adverse Effect, in all respects) when made and on the Closing Date of the representations and warranties of the Purchasers contained herein (unless as of a specific date therein in which case they shall be accurate as of such date in all material respects or to the extent qualified by materiality or Material Adverse Effect);
 - (ii) all obligations, covenants and agreements of each Purchaser required to be performed at or prior to the Closing Date shall have been performed; and
 - (iii) the delivery by each Purchaser of the items set forth in Section 2.2(b) of this Agreement.

4.8 Indemnification of Purchasers. Subject to the provisions of this Section 4.8, the Company will indemnify and hold each Purchaser and its directors, officers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a “Purchaser Party”) harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys’ fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against the Purchaser Parties in any capacity (including a Purchaser Party’s status as an investor), or any of them or their respective Affiliates, any stockholder of the Company who is not an Affiliate of such Purchaser Party, arising out of or relating to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a material breach of such Purchaser Party’s representations, warranties, covenants or agreements made by such Purchaser Party in any Transaction Document or any conduct by a Purchaser Party which is finally judicially determined to constitute fraud, gross negligence or willful misconduct). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of counsel to the applicable Purchaser Party (which may be internal counsel), a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement for any settlement by a Purchaser Party effected without the Company’s prior written consent, which shall not be unreasonably withheld or delayed, or the extent that a loss, claim, damage, or liability is attributable to any Purchaser Party’s breach of any of the representations, warranties, covenants or agreements made by such Purchaser Party in this Agreement or in the other Transaction Documents. The indemnification and other payment obligations required by this Section 4.8 shall be made by periodic payments of the amount thereof during the course of the investigation, defense, collection, enforcement or action, as and when bills are received or are incurred; provided, that if any Purchaser Party is finally judicially determined not to be entitled to indemnification or payment under this Section 4.8, such Purchaser Party shall promptly reimburse the Company for any payments that are advanced under this sentence. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.9 Listing of Shares. The Company hereby agrees to use commercially reasonable best efforts to maintain the listing or quotation of the shares of Common Stock on each Trading Market on which each is currently listed, and concurrently with the Closing, the Company shall apply to list or quote all of the shares of Common Stock on such Trading Markets and promptly secure the listing of all of the shares of Common Stock on such Trading Markets. The Company further agrees, if the Company applies to have the Common Stock traded on any other Trading Market, it will then include in such application all of the shares of Common Stock and Warrant Shares, and will take such other action as is necessary to cause all of the shares of Common Stock and Warrant Shares to be listed or quoted on such other Trading Market as promptly as possible. The Company will then take all action reasonably necessary to continue the listing and trading of the Common Stock on a Trading Market and will comply in all material respects with the Company’s reporting, filing and other obligations under the bylaws or rules of the Trading Market. The Company agrees to use commercially reasonable efforts to maintain the eligibility of the for electronic transfer through the Depository Trust Company or another established clearing corporation, including, without limitation, by timely payment of fees to the Depository Trust Company or such other established clearing corporation in connection with such electronic transfer. Notwithstanding anything to the contrary contained in this Agreement, none of the foregoing shall apply in the event that the Company consummates (a) any transaction or series of related transactions as a result of which any Person (together with its Affiliates) acquires then outstanding securities of the Company representing more than fifty percent (50%) of the voting control of the Company; (b) a merger or reorganization of the Company with one or more other entities in which the Company is not the surviving entity; or (c) a sale of all or substantially all of the assets of the Company, where the consummation of such transaction results in the Company no longer being subject to the reporting requirements of the Exchange Act

4.10 Subsequent Equity Sales.

- (a) From the date hereof until ninety (90) days after the Closing Date, neither the Company nor any Subsidiary shall (i) issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or Common Stock Equivalents or (ii) file any registration statement or amendment or supplement thereto, other than the Prospectus Supplement or filing a registration statement on Form S-8 in connection with any employee benefit plan.

[PURCHASER SIGNATURE PAGES TO SECURITIES PURCHASE AGREEMENT]

IN WITNESS WHEREOF, the undersigned have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

Name of Purchaser:

Signature of Authorized Signatory of Purchaser:

Name of Authorized Signatory:

Title of Authorized Signatory:

Email Address of Authorized Signatory:

Facsimile Number of Authorized Signatory:

Address for Notice to Purchaser:

Address for Delivery of Warrant Shares to the Purchaser (if not same address for notice):

DWAC for Common Stock:

Subscription Amount: \$_____

Shares of Common Stock: _____

Shares of Common Stock underlying the Pre-Funded Warrants: _____

Warrant Shares underlying the Common Warrants: _____

EIN Number: _____

” Notwithstanding anything contained in this Agreement to the contrary, by checking this box (i) the obligations of the above-signed to purchase the securities set forth in this Agreement to be purchased from the Company by the above-signed, and the obligations of the Company to sell such securities to the above-signed, shall be unconditional and all conditions to Closing shall be disregarded, (ii) the Closing shall occur on the second (2nd) Trading Day following the date of this Agreement and (iii) any condition to Closing contemplated by this Agreement (but prior to being disregarded by clause (i) above) that required delivery by the Company or the above-signed of any agreement, instrument, certificate or the like or purchase price (as applicable) shall no longer be a condition and shall instead be an unconditional obligation of the Company or the above-signed (as applicable) to deliver such agreement, instrument, certificate or the like or purchase price (as applicable) to such other party on the Closing Date.

COMMON STOCK PURCHASE WARRANT

THERIVA BIOLOGICS, INC.

Warrant
Shares: _____

Issue Date: May 8, 2025

THIS COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, _____ or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”) and on or prior to 5:00 p.m. (New York City time) on the five (5) year anniversary of the Initial Exercise Date (the “Termination Date”) but not thereafter, to subscribe for and purchase from **Theriva Biologics, Inc.**, a Nevada corporation (the “Company”), up to _____ shares (as subject to adjustment hereunder, the “Warrant Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Securities Purchase Agreement (the “Purchase Agreement”), dated May 7, 2025, among the Company and the purchasers signatory thereto.

Section 2. Exercise

a) Exercise of Warrant. Subject to the terms and conditions hereof, exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form attached hereto as Exhibit A (the “Notice of Exercise”). Within the earlier of (i) one (1) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the Warrant Shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is applicable and specified in the attached Notice of Exercise. The Company shall have no obligation to inquire with respect to or otherwise confirm the authenticity of the signature(s) contained on any Notice of Exercise nor the authority of the person executing such Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Trading Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The exercise price per share of Common Stock under this Warrant shall be \$[●], subject to adjustment hereunder (the “Exercise Price”).

c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for, the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the highest Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. (“Bloomberg”) within two (2) hours of the time of Holder’s delivery of the Notice of Exercise pursuant to Section 2(a) hereof if such Notice of Exercise is delivered during “regular trading hours” or within two (2) hours thereafter the close of “regular trading hours” on a Trading Day or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is delivered pursuant to Section 2(a) hereof within two (2) hours after the close of “regular trading hours” on such Trading Day;
- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on the OTCQB Venture Market (“OTCQB”) or the OTCQX Best Market (“OTCQX”), as applicable, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted for trading on a Trading Market or on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on OTCQB or OTCQX, as applicable, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted for trading on a Trading Market or on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

d) Mechanics of Exercise

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earlier of (A) the earlier of (i) two (2) Trading Days and (ii) the number of days comprising the Standard Settlement Period, in each case after the delivery to the Company of the Notice of Exercise and (B) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by the Warrant Share Delivery Date. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, provided that payment of the aggregate Exercise Price (other than in the instance of a cashless exercise) is received by the Company by such date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the third Trading Day after the Warrant Share Delivery Date) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise by delivering written notice to the Company at any time prior to the delivery of such Warrant Shares (in which case any liquidated damages payable under Section 2(d)(i) shall no longer be payable).

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date (other than any such failure that is solely due to any action or inaction by the Holder with respect to such exercise), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of Warrants with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form, attached hereto as Exhibit B, duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of the Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder relies on a number of outstanding shares of Common Stock that was provided by the Company. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of the Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder relies on the number of outstanding shares of Common Stock that was provided by the Company. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request of a Holder, the Company shall within two (2) Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be [4.99/9.99]% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon written notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. If the Warrant is unexercisable as a result of the Holder's Beneficial Ownership Limitation, no alternate consideration is owing to the Holder.

Section 3. Certain Adjustments

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant or pursuant to any other Transaction Documents), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or reclassification.

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time that this Warrant is outstanding the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to all of the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to all of the holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) **Fundamental Transaction.** If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company (or any Subsidiary), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of the Company's assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of more than 50% of the outstanding shares of Common Stock of the Company or more than 50% of the voting power of the outstanding common and preferred stocks of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of shares of Common Stock or any compulsory share exchange pursuant to which the shares of Common Stock are effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock of the Company or more than 50% of the aggregate voting power of the outstanding common and preferred stocks of the Company (each a "Fundamental Transaction"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity (as defined below) shall, at the Holder's option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction (or, if later, the date of the public announcement of the applicable Fundamental Transaction), purchase this Warrant from the Holder by paying to the Holder, as described below, an amount of consideration equal to the Black Scholes Value (as defined below) of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction, provided, however, that, if the Fundamental Transaction is not within the Company's control, including not approved by the Company's Board of Directors, the Holder shall only be entitled to receive from the Company or any Successor Entity, the same type or form of consideration (and in the same proportion), valued at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction; provided further, that if holders of Common Stock of the Company are not offered or paid any consideration in such Fundamental Transaction, such holders of Common Stock will be deemed to have received shares of the Successor Entity (which Successor Entity may be the Company following such Fundamental Transaction) in such Fundamental Transaction. "Black Scholes Value" means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable contemplated Fundamental Transaction and the Termination Date, (B) an expected volatility equal to 100 day volatility obtained from the HVT function on Bloomberg (determined utilizing a 365-day annualization factor) as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and ending on the Trading Day of the Holder's request pursuant to this Section 3(d), (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date, and (E) a zero cost of borrow. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds (or such other consideration) within five Business Days of the Holder's election (or, if later, on the effective date of the Fundamental Transaction). The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

f) Notice to Holder

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment; provided, however, that the Company may satisfy this notice requirement in this Section 3(f) by filing such notice with the Commission pursuant to a Current Report on Form 8-K, Quarterly Report on Form 10-Q or Annual Report on Form 10-K.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock other than a stock split, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 4 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Company's subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

g) Voluntary Adjustment by Company. Subject to the rules and regulations of the Trading Market, the Company may at any time during the term of this Warrant, subject to the prior written consent of the Holder, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

Section 4. Transfer of Warrant

a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the Issue Date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous

a) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3. Without limiting the rights of a Holder to receive Warrant Shares on a “cashless exercise” as permitted in Section 2(c), and to receive the cash payments contemplated pursuant to Section 2(d)(i) and Section 2(d)(iv), in no event will the Company be required to net cash settle an exercise of this Warrant.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then, such action may be taken or such right may be exercised on the next succeeding Trading Day.

d) Authorized Shares. The Company covenants that, at all times during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment (it being understood that this Warrant shall not in any case prevent the Company from effecting any such amendment, reorganization, transfer, consolidation, merger, dissolution, issuance or sale). Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action, which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Purchase Agreement.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that the right to exercise this Warrant terminates on the Termination Date. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Purchase Agreement.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company, on the one hand, and the Holder of this Warrant, on the other hand.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

THERIVA BIOLOGICS, INC.

By: _____

Name:

Title:

[SIGNATURE PAGE TO COMMON STOCK PURCHASE WARRANT OF
THERIVA BIOLOGICS, INC.]

NOTICE OF EXERCISE

TO: **THERIVA BIOLOGICS, INC.**

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

☐ in lawful money of the United States; or

☐ if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____

Signature of Authorized Signatory of Investing Entity: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Date: _____

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to exercise the Warrant to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name:

(Please Print)

Address:

(Please Print)

Phone Number:

Email Address:

Dated _____, _____
:

Holder's Signature:

Holder's Address:

PRE-FUNDED COMMON STOCK PURCHASE WARRANT

THERIVA BIOLOGICS, INC.

Warrant
Shares: _____

Issue Date: May 8, 2025

THIS PRE-FUNDED COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, _____ or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”) and until this Warrant is exercised in full (the “Termination Date”) but not thereafter, to subscribe for and purchase from **Theriva Biologics, Inc.**, a Nevada corporation (the “Company”), up to _____ shares (as subject to adjustment hereunder, the “Warrant Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Securities Purchase Agreement (the “Purchase Agreement”), dated May 7, 2025, among the Company and the purchasers signatory thereto.

Section 2. Exercise

a) Exercise of Warrant. Subject to the terms and conditions hereof, exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form attached hereto as Exhibit A (the “Notice of Exercise”). Within the earlier of (i) one (1) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the unpaid portion of the aggregate Exercise Price for the Warrant Shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is applicable and specified in the attached Notice of Exercise. The Company shall have no obligation to inquire with respect to or otherwise confirm the authenticity of the signature(s) contained on any Notice of Exercise nor the authority of the person executing such Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Trading Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per Warrant Share) shall be required to be paid by the Holder to the Company to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-paid aggregate exercise price under any circumstance or for any reason. The remaining exercise price per Warrant Share shall be \$0.001, subject to adjustment hereunder (the “Exercise Price”).

c) Cashless Exercise. Subject to the terms and conditions of this Warrant, the Holder may exercise, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the highest Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. (“Bloomberg”) within two (2) hours of the time of Holder’s delivery of the Notice of Exercise pursuant to Section 2(a) hereof if such Notice of Exercise is delivered during “regular trading hours” or within two (2) hours thereafter the close of “regular trading hours” on a Trading Day or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is delivered pursuant to Section 2(a) hereof within two (2) hours after the close of “regular trading hours” on such Trading Day;
- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on the OTCQB Venture Market (“OTCQB”) or the OTCQX Best Market (“OTCQX”), as applicable, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted for trading on a Trading Market or on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on OTCQB or OTCQX, as applicable, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted for trading on a Trading Market or on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

d) Mechanics of Exercise

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earlier of (A) the earlier of (i) two (2) Trading Days and (ii) the number of days comprising the Standard Settlement Period, in each case after the delivery to the Company of the Notice of Exercise and (B) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by the Warrant Share Delivery Date. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, provided that payment of the aggregate Exercise Price (other than in the instance of a cashless exercise) is received by the Company by such date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the third Trading Day after the Warrant Share Delivery Date) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 9:00 a.m. (New York City time) on the Initial Exercise Date, which may be delivered at any time after the time of execution of the Purchase Agreement, the Company agrees to deliver the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date and the Initial Exercise Date shall be the Warrant Share Delivery Date for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise by delivering written notice to the Company at any time prior to the delivery of such Warrant Shares (in which case any liquidated damages payable under Section 2(d)(i) shall no longer be payable).

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date (other than any such failure that is solely due to any action or inaction by the Holder with respect to such exercise), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of Warrants with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form, attached hereto as Exhibit B, duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of the Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder relies on a number of outstanding shares of Common Stock that was provided by the Company. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of the Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder relies on the number of outstanding shares of Common Stock that was provided by the Company. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request of a Holder, the Company shall within two (2) Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be $[4.99/9.99]\%$ of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon written notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. If the Warrant is unexercisable as a result of the Holder's Beneficial Ownership Limitation, no alternate consideration is owing to the Holder.

Section 3. Certain Adjustments

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant or pursuant to any other Transaction Documents), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or reclassification.

d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company (or any Subsidiary), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of the Company's assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of more than 50% of the outstanding shares of Common Stock of the Company or more than 50% of the voting power of the outstanding common and preferred stocks of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of shares of Common Stock or any compulsory share exchange pursuant to which the shares of Common Stock are effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock of the Company or more than 50% of the aggregate voting power of the outstanding common and preferred stocks of the Company (each a "Fundamental Transaction"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

f) Notice to Holder

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment; provided, however, that the Company may satisfy this notice requirement in this Section 3(f) by filing such notice with the Commission pursuant to a Current Report on Form 8-K, Quarterly Report on Form 10-Q or Annual Report on Form 10-K.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock other than a stock split, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 4 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Company's subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

g) Voluntary Adjustment by Company. Subject to the rules and regulations of the Trading Market, the Company may at any time during the term of this Warrant, subject to the prior written consent of the Holder, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

Section 4. Transfer of Warrant

a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the Issue Date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous

a) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3. Without limiting the rights of a Holder to receive Warrant Shares on a "cashless exercise" as permitted in Section 2(c), and to receive the cash payments contemplated pursuant to Section 2(d)(i) and Section 2(d)(iv), in no event will the Company be required to net cash settle an exercise of this Warrant.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then, such action may be taken or such right may be exercised on the next succeeding Trading Day.

d) Authorized Shares. The Company covenants that, at all times during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment (it being understood that this Warrant shall not in any case prevent the Company from effecting any such amendment, reorganization, transfer, consolidation, merger, dissolution, issuance or sale). Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action, which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Purchase Agreement.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that the right to exercise this Warrant terminates on the Termination Date. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Purchase Agreement.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company, on the one hand, and the Holder of this Warrant, on the other hand.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

THERIVA BIOLOGICS, INC.

B

y: _____

Name:

Title:

[SIGNATURE PAGE TO PRE-FUNDED COMMON STOCK PURCHASE WARRANT OF
THERIVA BIOLOGICS, INC.]

NOTICE OF EXERCISE

TO: **THERIVA BIOLOGICS, INC.**

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

☐ in lawful money of the United States; or

☐ if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____

Signature of Authorized Signatory of Investing Entity: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Date: _____

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to exercise the Warrant to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone Number: _____

Email Address: _____

Dated _____, _____
:

Holder's Signature: _____

Holder's Address: _____

Theriva Biologics Announces Pricing of \$7.5 Million Public Offering

ROCKVILLE, Md., May 7, 2025 (GLOBE NEWSWIRE) -- Theriva Biologics (NYSE American: TOVX), (“Theriva” or the “Company”), a diversified clinical-stage company developing therapeutics designed to treat cancer and related diseases in areas of high unmet need, today announced the pricing of its “reasonable best efforts” public offering for the purchase and sale of up to 6,818,180 shares of common stock (or pre-funded warrants in lieu thereof) and warrants to purchase up to 6,818,180 shares of common stock at a combined offering price of \$1.10 per share and accompanying warrant (the “Offering”). The Company expects to receive aggregate gross proceeds of approximately \$7.5 million, before deducting placement agent fees and other offering expenses, and assuming no exercise of the warrants. The warrants will have an exercise price of \$1.10 per share, will be exercisable immediately and will expire five years from the issuance date.

The closing of the Offering is expected to occur on or about May 8, 2025, subject to the satisfaction of customary closing conditions. The Company intends to use the net proceeds from this Offering primarily for working capital and general corporate purposes, including for research and development and manufacturing scale-up. The Company may also use a portion of the net proceeds to invest in or acquire other products, businesses or technologies, although it currently has no commitments or agreements with respect to any such investments or acquisitions.

A.G.P./Alliance Global Partners is acting as the sole placement agent for the Offering.

The securities described above are being offered pursuant to a registration statement on Form S-1 (File No. 333-283722), previously filed with the Securities and Exchange Commission (the “SEC”) on December 10, 2024, as amended, which was declared effective by the SEC on May 7, 2025. The Offering is being made only by means of a prospectus forming part of the effective registration statement relating to the Offering. A preliminary prospectus relating to the Offering has been filed with the SEC. Electronic copies of the final prospectus, when available, may be obtained on the SEC’s website at <http://www.sec.gov> and may also be obtained, when available, by contacting A.G.P./Alliance Global Partners at 590 Madison Avenue, 28th Floor, New York, NY 10022, by phone at (212) 624-2060 or e-mail at prospectus@alliancegp.com.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About Theriva Biologics, Inc.

Theriva™ Biologics (NYSE American: TOVX), is a diversified clinical-stage company developing therapeutics designed to treat cancer and related diseases in areas of high unmet need. The Company’s subsidiary Theriva Biologics, S.L. , has been developing a new oncolytic adenovirus platform designed for intravenous (IV), intravitreal and antitumoral delivery to trigger tumor cell death, improve access of co-administered cancer therapies to the tumor, and promote a robust and sustained anti-tumor response by the patient’s immune system. The Company’s lead clinical-stage candidates are: (1) VCN-01 (zabilugene almadenorepvec), an oncolytic adenovirus designed to replicate selectively and aggressively within tumor cells, and to degrade the tumor stroma barrier that serves as a significant physical and immunosuppressive barrier to cancer treatment; (2) SYN-004 (ribaxamase) which is designed to degrade certain commonly used IV beta-lactam antibiotics within the gastrointestinal (GI) tract to prevent microbiome damage, thereby limiting overgrowth of pathogenic organisms such as VRE (vancomycin resistant Enterococci) and reducing the incidence and severity of acute graft-versus-host-disease (aGVHD) in allogeneic hematopoietic cell transplant (HCT) recipients; and (3) SYN-020, a recombinant oral formulation of the enzyme intestinal alkaline phosphatase (IAP) produced under cGMP conditions and intended to treat both local GI and systemic diseases. For more information, please visit Theriva Biologics’ website at www.therivabio.com.

Forward-Looking Statement

This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. 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 forward-looking statements are based on management’s expectations and assumptions as of the date of this press release and are subject to a number of risks and uncertainties, many of which are difficult to predict that could cause actual results to differ materially from current expectations and assumptions from those set forth or implied by any forward-looking statements. These forward-looking statements include, but are not limited to, statements regarding the completion of the Offering, the satisfaction of customary closing conditions related to the Offering and the intended use of proceeds from the Offering. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise, except as required under applicable law. Important factors that could cause actual results to differ materially from those in the forward-looking statements are set forth in the preliminary prospectus related to the Offering filed with the Securities and Exchange Commission, under the caption “Risk Factors.” You should also carefully consider the risks and uncertainties described in the “Risk Factors” section of the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2024, which was filed by the Company with the SEC on March 6, 2025 and other documents filed by the Company from time to time with the SEC, including the Company’s Forms 10-Q filed with the SEC that are incorporated by reference therein. The Company does not undertake or accept any obligation to release publicly any updates or revisions to any forward-looking statements to reflect any change in its expectations or any change in events, conditions, or circumstances on which any such statement is based.

Investor Relations:

Kevin Gardner
LifeSci Advisors, LLC
kgardner@lifesciadvisors.com
617-283-2856

Theriva Biologics Announces Closing of \$7.5 Million Public Offering

ROCKVILLE, Md., May 8, 2025 (GLOBE NEWSWIRE) -- Theriva Biologics (NYSE American: TOVX), (“Theriva” or the “Company”), a diversified clinical-stage company developing therapeutics designed to treat cancer and related diseases in areas of high unmet need, today announced the closing of its previously announced “reasonable best efforts” public offering of 6,818,180 shares of common stock (or pre-funded warrants in lieu thereof) and warrants to purchase up to 6,818,180 shares of common stock at a combined offering price of \$1.10 per share and accompanying warrant (the “Offering”). The Company received aggregate gross proceeds of approximately \$7.5 million, before deducting placement agent fees and other offering expenses, and assuming no exercise of the warrants. The warrants have an exercise price of \$1.10 per share, became exercisable immediately upon issuance and expire five years from the issuance date.

The Company intends to use the net proceeds from this Offering primarily for working capital and general corporate purposes, including for research and development and manufacturing scale-up. The Company may also use a portion of the net proceeds to invest in or acquire other products, businesses or technologies, although it currently has no commitments or agreements with respect to any such investments or acquisitions.

A.G.P./Alliance Global Partners acted as the sole placement agent for the Offering.

The securities described above were offered pursuant to a registration statement on Form S-1 (File No. 333-283722), previously filed with the Securities and Exchange Commission (the “SEC”) on December 10, 2024, as amended, which was declared effective by the SEC on May 7, 2025. The Offering was made only by means of a prospectus forming part of the effective registration statement relating to the Offering. The final prospectus relating to the Offering has been filed with the SEC. Electronic copies of the final prospectus may be obtained on the SEC’s website at <http://www.sec.gov> and may also be obtained by contacting A.G.P./Alliance Global Partners at 590 Madison Avenue, 28th Floor, New York, NY 10022, by phone at (212) 624-2060 or e-mail at prospectus@alliancecg.com.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About Theriva Biologics, Inc.

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Investor Relations:

Kevin Gardner
LifeSci Advisors, LLC
kgardner@lifesciadvisors.com
617-283-2856

Mark Joseph NejmeH
P.O. Box 589
Clifton, New Jersey 07012
Telephone: 732-995-3914
Email: research@warrantwire.com
Plaintiff, self-represented

**UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA**

MARK JOSEPH NEJMEH, Plaintiff, v. THERIVA BIOLOGICS, INC., a Nevada corporation, Defendant.	Case No. _____ EXHIBIT T TO VERIFIED COMPLAINT AND EMERGENCY MOTION
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EXHIBIT T

**Relevant 2025 and 2026 Forms 10-Q and ATM prospectus supplements supporting
the capitalization chronology cited in paragraphs 59 through 65.**

Place the exhibit identified above immediately behind this cover sheet.

Exhibit T SEC EDGAR Source Index

Selected quarterly-report and prospectus pages supporting the capitalization chronology in paragraphs 59 through 65.

Date	Document	Direct SEC source
Aug. 11, 2025	Form 10-Q for June 30, 2025	https://www.sec.gov/Archives/edgar/data/894158/000141057825001654/tmb-20250630x10q.htm
Nov. 12, 2025	Form 10-Q for September 30, 2025	https://www.sec.gov/Archives/edgar/data/894158/000110465925109828/tmb-20250930x10q.htm
May 5, 2026	Form 10-Q for March 31, 2026	https://www.sec.gov/Archives/edgar/data/894158/000110465926055689/tmb-20260331x10q.htm
Oct. 24, 2025	ATM Prospectus Supplement No. 2	https://www.sec.gov/Archives/edgar/data/894158/000110465925102103/tm2529425d1_424b5.htm
Oct. 29, 2025	ATM Prospectus Supplement No. 3	https://www.sec.gov/Archives/edgar/data/894158/000110465925103770/tm2529686d2_424b5.htm
Dec. 3, 2025	Resale Prospectus for New Warrant Shares	https://www.sec.gov/Archives/edgar/data/894158/000110465925118116/tm2532622-1_424b5.htm

The pages that follow are copies or clearly identified excerpts of documents filed by Theriva Biologics, Inc. with the Securities and Exchange Commission. EDGAR is the authoritative source.

Only pages bearing on reported shares outstanding, warrant exercises, ATM sales and registered resale capacity are reproduced. Complete originals remain available at the direct SEC links. Exhibit L separately contains the relevant August 11, 2026 Form 10-Q pages.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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 June 30, 2025

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: 001-12584

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 No.)

9605 Medical Center Drive, Suite 270

Rockville, MD

(Address of principal executive offices)

20850

(Zip Code)

(301) 417-4364

(Registrant's telephone number, including area code)

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	TOVX	NYSE American

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	☐
Non-accelerated Filer	☒	Smaller Reporting Company	☒
		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 Exchange Act).

Yes ☐ No ☒

As of August 7, 2025, the registrant had 9,597,952 shares of common stock, \$0.001 par value per share, outstanding.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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 September 30, 2025

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: 001-12584

THERIVA BIOLOGICS, INC.

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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 ☐

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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	☐
Non-accelerated Filer	☒	Smaller Reporting Company	☒
		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 Exchange Act).

Yes ☐ No ☒

As of November 7, 2025, the registrant had 33,739,643 shares of common stock, \$0.001 par value per share, outstanding.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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, 2026

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: 001-12584

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 No.)

9605 Medical Center Drive, Suite 270

Rockville, MD

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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	TOVX	NYSE American

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	☐
Non-accelerated Filer	☒	Smaller Reporting Company	☒
		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 Exchange Act).

Yes ☐ No ☒

As of May 1, 2026, the registrant had 45,892,668 shares of common stock, \$0.001 par value per share, outstanding.

PART I—FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS (UNAUDITED)

Theriva Biologics, Inc. and Subsidiaries

Condensed Consolidated Balance Sheets
(In thousands except share and par value amounts)

	March 31, 2026	December 31, 2025
Assets		
Current Assets		
Cash and cash equivalents	\$ 14,431	\$ 13,056
Tax credit receivable	1,696	3,351
Prepaid expenses and other current assets	630	1,060
Total Current Assets	16,757	17,467
Non-Current Assets		
Property and equipment, net	194	222
Restricted cash	45	46
Right of use asset	1,946	803
In-process research and development	19,225	19,619
Deposits and other assets	81	82
Total Assets	\$ 38,248	\$ 38,239
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable	\$ 608	\$ 1,014
Accrued expenses	6,220	6,276
Contingent consideration, current portion	1,193	—
Accrued employee benefits	267	443
Deferred research and development tax credit-current portion	1,431	1,675
Loans payable-current	35	57
Operating lease liability-current portion	510	549
Total Current Liabilities	10,264	10,014
Non-current Liabilities		
Non-current contingent consideration	8,838	10,004
Loan Payable - non-current	1,626	1,671
Non-current deferred research and development tax credit	599	815
Non-current operating lease liability	1,522	352
Total Liabilities	22,849	22,856
Commitments and Contingencies (Note 14)	—	—
Stockholders' Equity:		
Common stock, \$0.001 par value; 350,000,000 shares authorized, 45,921,478 issued and 45,892,668 outstanding at March 31, 2026 and 35,717,159 issued and 35,688,350 outstanding at December 31, 2025	45	34
Additional paid-in capital	376,019	373,592
Treasury stock at cost, 28,809 shares at March 31, 2026 and at December 31, 2025	(288)	(288)
Accumulated other comprehensive loss	377	755
Accumulated deficit	(360,754)	(358,710)
Total Stockholders' Equity	15,399	15,383
Total Liabilities and Stockholders' Equity	\$ 38,248	\$ 38,239

See accompanying notes to unaudited condensed consolidated financial statements.

Theriva Biologics, Inc. and Subsidiaries

Condensed Consolidated Statements of Stockholder's Equity
(In thousands, except share and par value amounts)
(Unaudited)

	<u>Common Stock \$0.001 Par Value</u>		<u>Additional Paid-in Capital</u>	<u>Accumulated Deficit</u>	<u>Accumulated Other Comprehensive income</u>	<u>Treasury Stock</u>	<u>Total Stockholders' Equity</u>
	<u>Shares</u>	<u>Amount</u>					
Balance at December 31, 2025	35,717,159	\$ 34	\$ 373,592	\$ (358,710)	\$ 755	(288)	\$ 15,383
Stock-based compensation	—	—	135	—	—	—	135
Stock issued under "at-the-market" offering	10,204,319	11	2,292	—	—	—	2,303
Foreign currency exchange gains (losses)	—	—	—	—	(378)	—	(378)
Net loss	—	—	—	(2,044)	—	—	(2,044)
Balance at March 31, 2026	45,921,478	\$ 45	\$ 376,019	\$ (360,754)	\$ 377	(288)	\$ 15,399

	<u>Common Stock \$0.001 Par Value</u>		<u>Additional Paid-in Capital</u>	<u>Accumulated Deficit</u>	<u>Accumulated Other Comprehensive income</u>	<u>Treasury Stock</u>	<u>Total Stockholders' Equity</u>
	<u>Shares</u>	<u>Amount</u>					
Balance at December 31, 2024	2,811,259	\$ 3	\$ 355,501	\$ (334,971)	\$ (1,178)	(288)	\$ 19,067
Stock-based compensation	—	—	100	—	—	—	100
Foreign currency exchange gains (losses)	—	—	—	—	654	—	654
Net loss	—	—	—	(4,324)	—	—	(4,324)
Balance at March 31, 2025	2,811,259	\$ 3	\$ 355,601	\$ (339,295)	\$ (524)	(288)	\$ 15,497

See accompanying notes to unaudited condensed consolidated financial statements.

Theriva Biologics, Inc. and Subsidiaries
Notes to Condensed Consolidated Financial Statements

8. Selected Balance Sheet Information

Prepaid expenses and other current assets (in thousands)

	March 31, 2026	December 31, 2025
Prepaid consulting, subscriptions and other expenses	\$ 307	\$ 213
Prepaid insurance	233	350
VAT receivable	76	32
Stock sales receivable	—	452
Other receivable	14	—
Prepaid manufacturing expenses	—	13
Total prepaid expenses and other current assets	<u>\$ 630</u>	<u>\$ 1,060</u>

Stock sales receivable was from at-the-market stock sales that was not cash settled prior to the period end.

Property and equipment, net (in thousands)

	March 31, 2026	December 31, 2025
Computers and office equipment	\$ 636	\$ 639
Other property, plant and equipment	434	444
Leasehold improvements	94	94
Software	11	11
	<u>1,175</u>	<u>1,188</u>
Less: accumulated depreciation and amortization	<u>(981)</u>	<u>(966)</u>
Total	<u>\$ 194</u>	<u>\$ 222</u>

During the three months ended March 31, 2026 and the year ended December 31, 2025 the Company recognized depreciation expense of \$24,000 and \$108,000 respectively.

Accrued expenses (in thousands)

	March 31, 2026	December 31, 2025
Accrued milestones payments	\$ 5,000	\$ 5,000
Accrued clinical consulting services	833	842
Accrued manufacturing costs	194	257
Accrued vendor payments	193	177
Total accrued expenses	<u>\$ 6,220</u>	<u>\$ 6,276</u>

Theriva Biologics, Inc. and Subsidiaries
Notes to Condensed Consolidated Financial Statements

12. Common and Stock*At Market Issuance Sales Agreement*

On May 2, 2024, the Company and A.G.P./Alliance Global Partners (“A.G.P”) entered into the ATM Sales Agreement, pursuant to which the Company may offer and sell, from time to time, at its option, shares of the Common Stock through A.G.P, as sales agent, in an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act of 1933, as amended. Sales in the “at the market offering” may occur under the Company’s current effective registration statement on Form S-3 (File No. 333-279077), which was originally filed on May 2, 2024, as amended and declared effective on September 25, 2024, utilizing a prior prospectus and related prospectus supplements thereto or a newly filed registration statement on Form S-3. In addition, on May 1, 2024, the Company and B. Riley Securities, Inc. mutually agreed to enter into a notice of termination whereby B. Riley Securities, Inc. would no longer be a party to the ATM Sales Agreement. During the three months ended March 31, 2026, the Company sold 10,204,319 shares of the Company’s Common Stock pursuant to the ATM Sales Agreement and received net proceeds of approximately \$2.3 million. During the three months ended March 31, 2025, there were no shares sold under the ATM Sales Agreement.

13. Loans Payable

As a result of the Acquisition of VCN, the Company acquired interest-free or below-market interest rate loans (0%-1%) extended by Spanish governmental institutions of Ministerio de Ciencia, Innovacion y Universidades (RETOS loan) and ACC10 Generalitat de Catalunya (NEBT loan). The maturities of these loans are between 2024 and 2028. As a result of the Acquisition, the Company maintains a restricted cash collateral account of \$45,000 relating to the RETOS loan, which is reflected as a non-current asset on the balance sheet.

During September 2024, the Company announced that its THERICEL project had been awarded €2.28 million (approximately \$2.54 million) from the National Knowledge Transfer Program of the Spanish government’s Ministry of Science, Innovation & Universities to support a collaboration between the Company and the Universitat Autònoma de Barcelona (“UAB”) to advance the Company’s THERICEL suspension cell platform for the clinical manufacture of adenovirus- and adeno-associated virus (“AAV”) therapies. Under the award, the Company (via its wholly owned subsidiary, Theriva Biologics SL) received an unsecured loan (the “Loan”) of €1.3 million (approximately \$1.4 million) as a lump sum payment on January 17, 2025 which bears interest at a rate of 4.015% and is to be repaid over 7 years commencing three years from the date of award.

The Company incurred, and charged to interest expense, \$16,000 and \$12,000 during the three months ended March 31, 2026 and 2025, respectively.

	March 31, 2026 Current	March 31, 2026 Non-current	December 31, 2025 Current	December 31, 2025 Non-current
NEBT Loan	9	\$ 9	9	\$ 9
RETOS 2015	26	10	48	38
THERICEL Loan	—	1,607	—	1,624
	<u>\$ 35</u>	<u>\$ 1,626</u>	<u>\$ 57</u>	<u>\$ 1,671</u>

A maturity analysis of the debt as of March 31, 2026 is as follows (*amounts in thousands of dollars*):

2026	\$ 8
2027	35
2028	11
2029	98
2030	227
Thereafter	1,282
Total	<u>\$ 1,661</u>

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

The following discussion should be read in conjunction with our unaudited condensed consolidated financial statements and notes thereto included in this Quarterly Report on Form 10-Q, and our audited consolidated financial statements and notes thereto for the year ended December 31, 2025 included in our 2025 Form 10-K. This discussion contains forward-looking statements reflecting our current expectations that involve risks and uncertainties. See "Note Regarding Forward-Looking Statements" for a discussion of the uncertainties, risks and assumptions associated with these statements. Our actual results and the timing of events could differ materially from those expressed or implied by the forward-looking statements due to important factors and risks including, but not limited to, those set forth below under "Risk Factors" and elsewhere herein, and those identified under Part I, Item 1A of our 2025 Form 10-K.

Overview

We are a diversified clinical-stage company developing therapeutics designed to treat cancer and related diseases in areas of high unmet need. As a result of our acquisition of Theriva Biologics, S.L. ("VCN", formerly named VCN Biosciences, S.L.) (the "Acquisition") in March 2022, we transitioned our strategic focus to oncology through the development of VCN's new oncolytic adenovirus platform designed for intravenous and intravitreal delivery to trigger tumor cell death, to improve access of co-administered cancer therapies to the tumor, and to promote a robust and sustained anti-tumor response by the patient's immune system. Our lead product candidate, VCN-01 (zabilugene almadenorepvec), is a clinical stage oncolytic human adenovirus that is modified for tumor-selective replication and to express an enzyme, PH20 hyaluronidase. VCN-01 has been evaluated in a Phase 2b clinical study for the treatment of pancreatic cancer ("VIRAGE"), a Phase 1 clinical study for the treatment of retinoblastoma, as well as various other Phase 1 clinical studies for the treatment of other solid tumors including head and neck squamous cell carcinoma.

VCN-01 has been administered to 144 patients across multiple Phase 1 clinical trials and the Phase 2b VIRAGE trial, and our compassionate use program including patients with pancreatic cancer, head and neck squamous cell carcinoma, ovarian carcinoma, colorectal cancer, and retinoblastoma.

Prior to the Acquisition, our focus was on developing therapeutics designed to treat gastrointestinal (GI) diseases which included our clinical development candidates: (1) SYN-004 (ribaxamase) which is designed to degrade certain commonly used intravenous (IV) beta-lactam antibiotics within the GI tract to prevent microbiome damage, thereby preventing overgrowth and infection by pathogenic organisms such as *Clostridioides difficile* infection (CDI) and vancomycin resistant Enterococci (VRE), and reducing the incidence and severity of acute graft-versus-host-disease (aGVHD) in allogeneic hematopoietic cell transplant (HCT) recipients, and (2) SYN-020, a recombinant oral formulation of the enzyme intestinal alkaline phosphatase (IAP) produced under cGMP conditions and intended to treat both local GI and systemic diseases, which we have out-licensed as described below.

Additionally, as part of our strategic transformation into an oncology focused company, we are exploring value creation options for our SYN-004 asset, including out-licensing or partnering as we do not intend to further develop SYN-004 without receipt of grant funding or funding through a partnership or other collaboration.

Financial Developments

On January 22, 2026, we received \$1.6 million for the 2024 Research and Development rebate program sponsored by the Spanish government. The program provides for reimbursement of certain expenses incurred in research and development efforts we incur in Spain. The reimbursements can be through either tax credits or direct refunds.

During the three months ended March 31, 2026, we sold 10,204,319 shares of our Common Stock pursuant to the Amended and Restated At The Market Issuance Sales Agreement, dated February 9, 2021, as amended by Amendment No. 1 thereto, dated May 3, 2021, as further amended by Amendment No. 2 thereto, dated May 2, 2024 (the "ATM Sales Agreement") and received net proceeds of approximately \$2.3 million.

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Cash Flows

The following table summarizes our cash flows for the periods presented (in thousands):

	Three Months Ended March 31,	
	2026	2025
Cash used in operating activities	\$ (2,456)	\$ (4,756)
Cash used in investing activities	—	—
Cash provided by financing activities	3,866	3,072
Effects of exchange rate changes on cash and cash equivalents	(36)	93
Net increase (decrease) in cash	1,374	(1,591)
Cash and cash equivalents, beginning of period	13,102	11,705
Cash and cash equivalents, end of period	\$ 14,476	\$ 10,114

Cash Used in Operating Activities

Net cash used in operating activities was \$2.5 million and \$4.8 million during the three months ended March 31, 2026 and 2025, respectively, which was primarily due to the use of funds in our operations related to the development of VCN-01. Cash used in operating activities for the three months ended March 31, 2026 decreased compared to the same period in 2025 due primarily to lower research and development expenses offset by higher legal and investor relation costs, which led to a decrease in net loss.

Cash Used in Investing Activities

There was no cash used in investing activities during the three months ended March 31, 2026 and 2025.

Cash Used in Financing Activities

Cash provided by financing activities during the three months ended March 31, 2026 included at the market offering proceeds of \$2.3 million from sales of 10,204,319 shares of our Common Stock under the ATM Sales Agreement, and \$1.6 million received for the research and development tax credit offset by payments of loans payable of \$49,000. Cash provided by financing activities during the three months ended March 31, 2025 included \$1.7 million received for the research and development tax credit and \$1.4 million in loan proceeds from the THERICEL project loan offset by payments of loans payable of \$56,000.

Off-Balance Sheet Arrangements

During the three months ended March 31, 2026, we did not have, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules.

Contractual Obligations

Leases

At the inception of a contract we determine if the arrangement is, or contains, a lease. Right of use (“ROU”) assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. ROU assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term.

We have made certain accounting policy elections whereby we (i) do not recognize ROU assets or lease liabilities for short-term leases (those with original terms of 12-months or less) and (ii) combine lease and non-lease elements of our operating leases. As of March 31, 2026, we did not have any material finance leases.

**Prospectus Supplement No. 2
(To Prospectus dated September 25, 2024)****Up to \$4,019,597 of Shares
Common Stock**

We have entered into an Amended and Restated At Market Issuance Sales Agreement, dated February 9, 2021, as amended by Amendment No. 1 thereto, dated May 3, 2021, as further amended by Amendment No. 2 thereto, dated May 2, 2024 (the "Sales Agreement"), with A.G.P./Alliance Global Partners ("AGP" or the "Sales Agent"), relating to the sale of shares of our common stock, par value \$0.001 per share (the "common stock"), offered by this prospectus supplement and the accompanying base prospectus. During the year ended December 31, 2024 through the date hereof, we sold through the Sales Agreement approximately 12,016,073 shares of our common stock and received net proceeds of approximately \$6.1 million.

On October 21, 2025, the last reported sale price of our common stock on the NYSE American LLC was \$0.2998 per share.

Sales of our common stock, if any, under this prospectus supplement will be made by any method permitted that is deemed an "at the market offering" as defined in Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"). The Sales Agent is not required to sell any specific amount but will act as our Sales Agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between the Sales Agent and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The Sales Agent will be entitled to compensation at a commission rate equal to up to 3.0% of the gross sales price per share sold. In connection with the sale of the common stock on our behalf, the Sales Agent will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of the Sales Agent will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to the Sales Agent with respect to certain liabilities, including liabilities under the Securities Act.

As of the date of this prospectus, the aggregate market value of our outstanding common stock held by non-affiliates is approximately \$19,659,047, which is calculated based on 23,403,628 shares of our outstanding common stock held by non-affiliates and a price of \$0.84 per share, the closing price of our common stock on October 15, 2025, which is the highest closing sale price of our common stock on the NYSE American LLC within the prior 60 days of this prospectus. During the prior twelve calendar month period that ends on and includes the date hereof, we have offered and sold approximately 2,533,373.88 of shares of our common stock pursuant to General Instruction I.B.6 to Form S-3. As a result, pursuant to General Instruction I.B.6 to Form S-3 and in accordance with the terms of the Sales Agreement, we may offer and sell through this prospectus supplement and the accompanying base prospectus additional shares of our common stock having an aggregate offering price of up to \$4,019,597 from time to time through or to the Sales Agent.

If our public float increases such that we may sell additional amounts under the Sales Agreement and the registration statement of which this prospectus supplement is a part, we will file a prospectus supplement prior to making additional sales. In no event will we sell securities in public primary offerings on Form S-3 with a value exceeding more than one-third of our public float (as defined by General Instruction I.B.6 to Form S-3) in any 12 calendar month period so long as our public float remains below \$75 million.

Investing in our common stock involves a high degree of risk. Before making an investment decision, please read the information under the heading "Risk Factors" beginning on page S-4 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement, and the accompanying base prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying base prospectus. Any representation to the contrary is a criminal offense.

A.G.P.

The date of this prospectus supplement is October 24, 2025

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying base prospectus are part of a “shelf” registration statement on Form S-3 (File No. 333-279077) that we filed with the U.S. Securities and Exchange Commission (the “SEC”) on May 2, 2024, as amended by Amendment No. 1 thereto filed with the SEC on September 11, 2024 and was declared effective on September 25, 2024.

This prospectus supplement describes the specific terms of this offering and also adds to and updates information contained in the accompanying base prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying base prospectus. The accompanying base prospectus, including the documents incorporated by reference, provides more general information. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying base prospectus or in any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying base prospectus — the statement in the document having the later date modifies or supersedes the earlier statement. You should read this prospectus supplement and the accompanying base prospectus, including the information incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying base prospectus, along with the information contained in any free writing prospectus that we have authorized for use in connection with this offering. We have not authorized anyone to provide you with different or additional information. You should assume that the information appearing in this prospectus supplement, the accompanying base prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying base prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering is accurate only as of the respective dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement or the accompanying base prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties and covenants were accurate only as of the date when made; therefore, such representations, warranties and covenants should not be relied on as accurate representations of the current state of our affairs.

Unless we have indicated otherwise, or the context otherwise requires, references in this prospectus supplement and the accompanying base prospectus to “Theriva,” the “Company,” “we,” “us” and “our” refer to Theriva Biologics, Inc. and its subsidiaries.

This prospectus supplement, the accompanying base prospectus and the information incorporated by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying base prospectus are the property of their respective owners.

We are offering to sell, and are seeking offers to buy, the common stock only in jurisdictions where such offers and sales are permitted. No action has been or will be taken in any jurisdiction by us or the Sales Agent that would permit a public offering of the common stock or the possession or distribution of this prospectus supplement and the accompanying base prospectus in any jurisdiction, other than in the United States. Persons outside the United States who come into possession of this prospectus supplement and the accompanying base prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying base prospectus outside the United States. This prospectus supplement and the accompanying base prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying base prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

This prospectus supplement and the accompanying prospectus is part of a registration statement that we have filed with the SEC utilizing a “shelf” registration process. Under the shelf registration process, we may offer shares of our common stock having an aggregate offering price of up to \$200,000,000 under the accompanying base prospectus. Under this prospectus supplement and the accompanying base prospectus, we may offer shares of our common stock having an aggregate offering price of up to \$4,019,597 from time to time at prices and on terms to be determined by market conditions at the time of offering.

THE OFFERING

All share information presented herein reflects a 1-for-25 reverse stock split of our common stock, which we effected on August 26, 2024.

Common stock offered by us pursuant to this prospectus supplement

Shares of our common stock having an aggregate offering price of up to \$4,019,597.

Common stock to be outstanding after this offering⁽¹⁾

Up to 36,821,223 shares, assuming sales of 13,407,595 shares of our common stock in this offering at an offering price of \$0.2998 per share, which was the last reported sale price of our common stock on the NYSE American on October 21, 2025. The actual number of shares issued will vary depending on the sales price under this offering.

Manner of offering

“At the market offering” that may be made from time to time on the NYSE American or other market for our common stock in the United States through or to the Sales Agent. See the section entitled “Plan of Distribution” on page S-11 of this prospectus supplement for additional information.

Use of proceeds

We currently intend to use the net proceeds from this offering primarily for working capital and general corporate purposes, including for research and development and manufacturing scale-up. We may also use a portion of the net proceeds to invest in or acquire other products, businesses or technologies, although we have no commitments or agreements with respect to any such investments or acquisitions as of the date of this prospectus. See “Use of Proceeds” on page S-8 of this prospectus supplement for additional information.

Risk factors

You should read the “Risk Factors” section of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement for a discussion of factors to consider before deciding to purchase shares of our common stock.

NYSE American symbol

Our common stock is listed on the NYSE American under the symbol “TOVX”

(1 Based on 23,413,628 shares of our common stock outstanding as of October 22, 2025 and excludes:
)

- 1,116,101 shares of common stock issuable upon the exercise of outstanding stock options with a weighted average exercise price of \$5.09 per share;
- 16,339,060 shares of common stock issuable upon the exercise of outstanding warrants to purchase common stock with a weighted average exercise price of \$0.55 per share; and
- 3,391,465 additional shares of the common stock reserved for future issuance under our equity incentive plans.

Because we do not intend to declare cash dividends on our shares of common stock in the foreseeable future, stockholders must rely on appreciation of the value of our common stock for any return on their investment.

We have never declared or paid cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future. In addition, the terms of any future preferred stock or debt agreements may preclude us from paying dividends. As a result, we expect that only appreciation of the price of our common stock, if any, will provide a return to investors in this offering for the foreseeable future.

Resales of our common stock in the public market during this offering by our stockholders may cause the market price of our common stock to fall.

We may issue common stock from time to time in connection with this offering. This issuance from time to time of these new shares of our common stock, or our ability to issue these shares of common stock in this offering, could result in resales of our common stock by our current stockholders concerned about the potential dilution of their holdings. In turn, these resales could have the effect of depressing the market price for our common stock.

The shares of common stock offered under this prospectus supplement and the accompanying base prospectus may be sold in “at the market offerings”, and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares under this prospectus supplement and the accompanying base prospectus at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience declines in the value of their shares as a result of share sales made at prices lower than the prices they paid.

The actual number of shares we will issue under the Sales Agreement at any one time or in total, is uncertain.

Subject to certain limitations in the sales agreement and compliance with applicable law, we have the discretion to deliver placement notices to the Sales Agent at any time throughout the term of the sales agreement. The number of shares that are sold by the Sales Agent as our Sales Agent after we deliver a placement notice will fluctuate based on the market price of the common stock and the trading volume of our common stock during the sales period and limits we set with the Sales Agent.

The market price of our common stock has been and may continue to be volatile and adversely affected by various factors.

Our stock price has fluctuated in the past, has recently been volatile and may be volatile in the future. By way of example, on October 21, 2025, the price of our common stock closed at \$0.2998 per share while on October 22, 2024, our stock price closed at \$1.45 per share with no discernable announcements or developments by us or third parties. We may incur rapid and substantial decreases in our stock price in the foreseeable future that are unrelated to our operating performance or prospects. In addition, the outbreak of the novel strain of coronavirus (COVID-19) has caused broad stock market and industry fluctuations. The stock market in general and the market for biotechnology and pharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may experience losses on their investment in our common stock. The market price of our common stock could fluctuate significantly in response to various factors and events, including:

- investor reaction to our business strategy;
- the success of competitive products or technologies;
- our continued compliance with the listing standards of the NYSE American;
- regulatory or legal developments in the United States and other countries, especially changes in laws or regulations applicable to our products;
- results of our clinical trials;
- actions taken by regulatory agencies with respect to our products, clinical studies, manufacturing process or sales and marketing terms;
- variations in our financial results or those of companies that are perceived to be similar to us;
- the success of our efforts to acquire or in-license additional products or product candidates;
- developments concerning our collaborations or partners;
- developments or disputes concerning patents or other proprietary rights, litigation matters and our ability to obtain patent protection for our products;

- our ability or inability to raise additional capital and the terms on which we raise it;
- declines in the market prices of stocks generally;
- trading volume of our common stock;
- sales of our common stock by us or our stockholders;
- general economic, industry and market conditions; and
- other events or factors, including those resulting from such events, or the prospect of such events, including war, terrorism and other international conflicts, such as the conflict in the Middle East, the conflict between Russia and the Ukraine, public health issues including health epidemics or pandemics, such as the outbreak of the novel coronavirus (COVID-19), and natural disasters such as fire, hurricanes, earthquakes, tornados or other adverse weather and climate conditions, whether occurring in the United States or elsewhere, could disrupt our operations, disrupt the operations of our suppliers or result in political or economic instability.

These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. Further, recent increases are significantly inconsistent with any improvements in actual or expected operating performance, financial condition or other indicators of value. Since the stock price of our common stock has fluctuated in the past, has been recently volatile and may be volatile in the future, investors in our common stock could incur substantial losses. In the past, following periods of volatility in the market, securities class-action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business, financial condition, results of operations and growth prospects. There can be no guarantee that our stock price will remain at current prices or that future sales of our common stock will not be at prices lower than those sold to investors.

Additionally, recently, securities of certain companies have experienced significant and extreme volatility in stock price due to short sellers of shares of common stock, known as a "short squeeze." These short squeezes have caused extreme volatility in those companies and in the market and have led the price per share of those companies to trade at a significantly inflated rate that is disconnected from the underlying value of the company. Many investors who have purchased shares in those companies at an inflated rate face the risk of losing a significant portion of their original investment as the price per share has declined steadily as interest in those stocks have abated. While we have no reason to believe our shares would be the target of a short squeeze, there can be no assurance that we won't be in the future, and you may lose a significant portion or all of your investment if you purchase our shares at a rate that is significantly disconnected from our underlying value.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying base prospectus and the documents we file with the SEC that are incorporated by reference herein and therein contain “forward-looking statements” within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), these statements reflect our current views with respect to our ongoing and planned clinical trials, business strategy, business plan, financial performance and other future events. These statements include forward-looking statements both with respect to us, specifically, and the biotechnology sector, in general. We make these statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Statements that include the words “expect,” “intend,” “plan,” “believe,” “project,” “estimate,” “may,” “should,” “anticipate,” “will” and similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise.

All forward-looking statements involve inherent risks and uncertainties, and there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to, those factors set forth under the caption “Risk Factors” in this prospectus supplement and in the accompanying base prospectus and under the captions “Risk Factors,” “Business,” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” in our most recent Annual Report on Form 10-K and our subsequent Quarterly Reports on Form 10-Q, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus supplement and the accompanying base prospectus. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should not assume that the information contained in this prospectus supplement is accurate as of any date other than the date on the front of this prospectus supplement, or that any information incorporated by reference into this prospectus supplement is accurate as of any date other than the date of the document so incorporated by reference. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

If one or more of these or other risks or uncertainties materializes, or if our underlying assumptions prove to be incorrect, actual results may vary materially from what we anticipate. All subsequent written and oral forward-looking statements attributable to us or individuals acting on our behalf are expressly qualified in their entirety by this Note. Before purchasing any shares of common stock, you should consider carefully all of the factors set forth or referred to in this prospectus supplement and in the accompanying base prospectus that could cause actual results to differ.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplement and in any related free writing prospectus, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be offered independently or in combination with common stock, preferred stock or debt securities offered by any prospectus supplement. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The following description of warrants will apply to the warrants offered by this prospectus unless we provide otherwise in the applicable prospectus supplement. The applicable prospectus supplement for a particular series of warrants may specify different or additional terms.

We have filed or will file forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants that may be offered as exhibits to the registration statement of which this prospectus is a part. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants. The following summaries of material terms and provisions of the warrants are subject to, and qualified in their entirety by reference to, all the provisions of the form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements applicable to a particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplement related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectus, and the complete form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements, that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered, including, to the extent applicable:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus is being passed upon by Parsons Behle & Latimer, Reno, Nevada. Blank Rome LLP, New York, New York has acted as securities counsel to Theriva Biologics, Inc. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement. A partner of Blank Rome LLP has options to purchase shares of stock of Theriva Biologics, Inc. that represent less than 1% of the outstanding shares of common stock of Theriva Biologics, Inc.

EXPERTS

The consolidated financial statements of Theriva Biologics, Inc. as of December 31, 2023 and 2022 and for each of the two years in the period ended December 31, 2023 incorporated by reference in this prospectus and in the registration statement of which this prospectus forms a part have been so incorporated in reliance on the report of BDO USA, P.C, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Neither we nor any agent, underwriter or dealer has authorized any person to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public at the SEC's website at www.sec.gov. Our SEC filings are also available on our website, www.therivabio.com under the heading "Investor Relations—SEC Filings." The reference to our website is an inactive textual reference only, the information contained in, and that can be accessed through our website, is not incorporated into and is not a part of this prospectus. We make available on our website our SEC filings as soon as reasonably practicable after those reports are filed with the SEC.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-12584):

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed with the SEC on March 25, 2024;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2024 filed with the SEC on May 7, 2024;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2024 filed with the SEC on August 13, 2024;
- Our Current Reports on Form 8-K filed with the SEC on February 7, 2024, April 22, 2024 (other than as set forth therein), April 23, 2024 (other than as set forth therein) and May 2, 2024, May 16, 2024, May 23, 2024, (other than as set forth therein) July 31, 2024 (other than as set forth therein), August 16, 2024, August 26, 2024 and September 9, 2024; and
- The description of our common stock set forth in (i) our registration statements on Form 8-A12B, filed with the SEC on June 20, 2007 (File No. 001-12584) and (ii) Exhibit 4.3—Description of Securities to our Annual Report on Form 10-K for the fiscal year ended December 31, 2023.



**Up to \$4,019,597 of Shares
Common Stock**

PROSPECTUS SUPPLEMENT

A.G.P.

October 24, 2025

**Prospectus Supplement No. 3
(To Prospectus dated September 25, 2024)****Up to \$2,894,225 of Shares
Common Stock**

We have entered into an Amended and Restated At Market Issuance Sales Agreement, dated February 9, 2021, as amended by Amendment No. 1 thereto, dated May 3, 2021, as further amended by Amendment No. 2 thereto, dated May 2, 2024 (the "Sales Agreement"), with A.G.P./Alliance Global Partners ("AGP" or the "Sales Agent"), relating to the sale of shares of our common stock, par value \$0.001 per share (the "common stock"), offered by this prospectus supplement and the accompanying base prospectus. During the year ended December 31, 2024 through the date hereof, we sold through the Sales Agreement approximately 16,618,692 shares of our common stock and received net proceeds of approximately \$10.1 million.

On October 27, 2025, the last reported sale price of our common stock on the NYSE American LLC was \$0.3276 per share.

Sales of our common stock, if any, under this prospectus supplement will be made by any method permitted that is deemed an "at the market offering" as defined in Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"). The Sales Agent is not required to sell any specific amount but will act as our Sales Agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between the Sales Agent and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The Sales Agent will be entitled to compensation at a commission rate equal to up to 3.0% of the gross sales price per share sold. In connection with the sale of the common stock on our behalf, the Sales Agent will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of the Sales Agent will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to the Sales Agent with respect to certain liabilities, including liabilities under the Securities Act.

As of the date of this prospectus, the aggregate market value of our outstanding common stock held by non-affiliates is approximately \$28,332,900, which is calculated based on 33,729,643 shares of our outstanding common stock held by non-affiliates and a price of \$0.84 per share, the closing price of our common stock on October 15, 2025, which is the highest closing sale price of our common stock on the NYSE American LLC within the prior 60 days of this prospectus. During the prior twelve calendar month period that ends on and includes the date hereof, we have offered and sold approximately \$6,550,075 of shares of our common stock pursuant to General Instruction I.B.6 to Form S-3. As a result, pursuant to General Instruction I.B.6 to Form S-3 and in accordance with the terms of the Sales Agreement, we may offer and sell through this prospectus supplement and the accompanying base prospectus additional shares of our common stock having an aggregate offering price of up to \$2,894,225 from time to time through or to the Sales Agent.

If our public float increases such that we may sell additional amounts under the Sales Agreement and the registration statement of which this prospectus supplement is a part, we will file a prospectus supplement prior to making additional sales. In no event will we sell securities in public primary offerings on Form S-3 with a value exceeding more than one-third of our public float (as defined by General Instruction I.B.6 to Form S-3) in any 12 calendar month period so long as our public float remains below \$75 million.

Investing in our common stock involves a high degree of risk. Before making an investment decision, please read the information under the heading "Risk Factors" beginning on page S-4 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement, and the accompanying base prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying base prospectus. Any representation to the contrary is a criminal offense.

A.G.P.

The date of this prospectus supplement is October 29, 2025

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying base prospectus are part of a “shelf” registration statement on Form S-3 (File No. 333-279077) that we filed with the U.S. Securities and Exchange Commission (the “SEC”) on May 2, 2024, as amended by Amendment No. 1 thereto filed with the SEC on September 11, 2024 and was declared effective on September 25, 2024.

This prospectus supplement describes the specific terms of this offering and also adds to and updates information contained in the accompanying base prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying base prospectus. The accompanying base prospectus, including the documents incorporated by reference, provides more general information. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying base prospectus or in any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying base prospectus — the statement in the document having the later date modifies or supersedes the earlier statement. You should read this prospectus supplement and the accompanying base prospectus, including the information incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying base prospectus, along with the information contained in any free writing prospectus that we have authorized for use in connection with this offering. We have not authorized anyone to provide you with different or additional information. You should assume that the information appearing in this prospectus supplement, the accompanying base prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying base prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering is accurate only as of the respective dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement or the accompanying base prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties and covenants were accurate only as of the date when made; therefore, such representations, warranties and covenants should not be relied on as accurate representations of the current state of our affairs.

Unless we have indicated otherwise, or the context otherwise requires, references in this prospectus supplement and the accompanying base prospectus to “Theriva,” the “Company,” “we,” “us” and “our” refer to Theriva Biologics, Inc. and its subsidiaries.

This prospectus supplement, the accompanying base prospectus and the information incorporated by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying base prospectus are the property of their respective owners.

We are offering to sell, and are seeking offers to buy, the common stock only in jurisdictions where such offers and sales are permitted. No action has been or will be taken in any jurisdiction by us or the Sales Agent that would permit a public offering of the common stock or the possession or distribution of this prospectus supplement and the accompanying base prospectus in any jurisdiction, other than in the United States. Persons outside the United States who come into possession of this prospectus supplement and the accompanying base prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying base prospectus outside the United States. This prospectus supplement and the accompanying base prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying base prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

This prospectus supplement and the accompanying prospectus is part of a registration statement that we have filed with the SEC utilizing a “shelf” registration process. Under the shelf registration process, we may offer shares of our common stock having an aggregate offering price of up to \$200,000,000 under the accompanying base prospectus. Under this prospectus supplement and the accompanying base prospectus, we may offer shares of our common stock having an aggregate offering price of up to \$2,894,225 from time to time at prices and on terms to be determined by market conditions at the time of offering.

THE OFFERING

All share information presented herein reflects a 1-for-25 reverse stock split of our common stock, which we effected on August 26, 2024.

Common stock offered by us pursuant to this prospectus supplement

Shares of our common stock having an aggregate offering price of up to \$2,894,225.

Common stock to be outstanding after this offering⁽¹⁾

Up to 42,574,273 shares, assuming sales of 8,834,630 shares of our common stock in this offering at an offering price of \$0.3276 per share, which was the last reported sale price of our common stock on the NYSE American on October 27, 2025. The actual number of shares issued will vary depending on the sales price under this offering.

Manner of offering

“At the market offering” that may be made from time to time on the NYSE American or other market for our common stock in the United States through or to the Sales Agent. See the section entitled “Plan of Distribution” on page S-11 of this prospectus supplement for additional information.

Use of proceeds

We currently intend to use the net proceeds from this offering primarily for working capital and general corporate purposes, including for research and development and manufacturing scale-up. We may also use a portion of the net proceeds to invest in or acquire other products, businesses or technologies, although we have no commitments or agreements with respect to any such investments or acquisitions as of the date of this prospectus. See “Use of Proceeds” on page S-8 of this prospectus supplement for additional information.

Risk factors

You should read the “Risk Factors” section of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement for a discussion of factors to consider before deciding to purchase shares of our common stock.

NYSE American symbol

Our common stock is listed on the NYSE American under the symbol “TOVX”

(1) Based on 33,739,643 shares of our common stock outstanding as of October 27, 2025 and excludes:

- 1,116,101 shares of common stock issuable upon the exercise of outstanding stock options with a weighted average exercise price of \$5.09 per share;
- 16,339,060 shares of common stock issuable upon the exercise of outstanding warrants to purchase common stock with a weighted average exercise price of \$0.55 per share; and
- 3,391,465 additional shares of the common stock reserved for future issuance under our equity incentive plans.

Because we do not intend to declare cash dividends on our shares of common stock in the foreseeable future, stockholders must rely on appreciation of the value of our common stock for any return on their investment.

We have never declared or paid cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future. In addition, the terms of any future preferred stock or debt agreements may preclude us from paying dividends. As a result, we expect that only appreciation of the price of our common stock, if any, will provide a return to investors in this offering for the foreseeable future.

Resales of our common stock in the public market during this offering by our stockholders may cause the market price of our common stock to fall.

We may issue common stock from time to time in connection with this offering. This issuance from time to time of these new shares of our common stock, or our ability to issue these shares of common stock in this offering, could result in resales of our common stock by our current stockholders concerned about the potential dilution of their holdings. In turn, these resales could have the effect of depressing the market price for our common stock.

The shares of common stock offered under this prospectus supplement and the accompanying base prospectus may be sold in “at the market offerings”, and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares under this prospectus supplement and the accompanying base prospectus at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience declines in the value of their shares as a result of share sales made at prices lower than the prices they paid.

The actual number of shares we will issue under the Sales Agreement at any one time or in total, is uncertain.

Subject to certain limitations in the sales agreement and compliance with applicable law, we have the discretion to deliver placement notices to the Sales Agent at any time throughout the term of the sales agreement. The number of shares that are sold by the Sales Agent as our Sales Agent after we deliver a placement notice will fluctuate based on the market price of the common stock and the trading volume of our common stock during the sales period and limits we set with the Sales Agent.

The market price of our common stock has been and may continue to be volatile and adversely affected by various factors.

Our stock price has fluctuated in the past, has recently been volatile and may be volatile in the future. By way of example, on October 21, 2025, the price of our common stock closed at \$0.2998 per share while on October 22, 2024, our stock price closed at \$1.45 per share with no discernable announcements or developments by us or third parties. We may incur rapid and substantial decreases in our stock price in the foreseeable future that are unrelated to our operating performance or prospects. In addition, the outbreak of the novel strain of coronavirus (COVID-19) has caused broad stock market and industry fluctuations. The stock market in general and the market for biotechnology and pharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may experience losses on their investment in our common stock. The market price of our common stock could fluctuate significantly in response to various factors and events, including:

- investor reaction to our business strategy;
- the success of competitive products or technologies;
- our continued compliance with the listing standards of the NYSE American;
- regulatory or legal developments in the United States and other countries, especially changes in laws or regulations applicable to our products;
- results of our clinical trials;
- actions taken by regulatory agencies with respect to our products, clinical studies, manufacturing process or sales and marketing terms;
- variations in our financial results or those of companies that are perceived to be similar to us;
- the success of our efforts to acquire or in-license additional products or product candidates;
- developments concerning our collaborations or partners;
- developments or disputes concerning patents or other proprietary rights, litigation matters and our ability to obtain patent protection for our products;

- our ability or inability to raise additional capital and the terms on which we raise it;
- declines in the market prices of stocks generally;
- trading volume of our common stock;
- sales of our common stock by us or our stockholders;
- general economic, industry and market conditions; and
- other events or factors, including those resulting from such events, or the prospect of such events, including war, terrorism and other international conflicts, such as the conflict in the Middle East, the conflict between Russia and the Ukraine, public health issues including health epidemics or pandemics, such as the outbreak of the novel coronavirus (COVID-19), and natural disasters such as fire, hurricanes, earthquakes, tornados or other adverse weather and climate conditions, whether occurring in the United States or elsewhere, could disrupt our operations, disrupt the operations of our suppliers or result in political or economic instability.

These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. Further, recent increases are significantly inconsistent with any improvements in actual or expected operating performance, financial condition or other indicators of value. Since the stock price of our common stock has fluctuated in the past, has been recently volatile and may be volatile in the future, investors in our common stock could incur substantial losses. In the past, following periods of volatility in the market, securities class-action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business, financial condition, results of operations and growth prospects. There can be no guarantee that our stock price will remain at current prices or that future sales of our common stock will not be at prices lower than those sold to investors.

Additionally, recently, securities of certain companies have experienced significant and extreme volatility in stock price due to short sellers of shares of common stock, known as a "short squeeze." These short squeezes have caused extreme volatility in those companies and in the market and have led the price per share of those companies to trade at a significantly inflated rate that is disconnected from the underlying value of the company. Many investors who have purchased shares in those companies at an inflated rate face the risk of losing a significant portion of their original investment as the price per share has declined steadily as interest in those stocks have abated. While we have no reason to believe our shares would be the target of a short squeeze, there can be no assurance that we won't be in the future, and you may lose a significant portion or all of your investment if you purchase our shares at a rate that is significantly disconnected from our underlying value.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying base prospectus and the documents we file with the SEC that are incorporated by reference herein and therein contain “forward-looking statements” within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), these statements reflect our current views with respect to our ongoing and planned clinical trials, business strategy, business plan, financial performance and other future events. These statements include forward-looking statements both with respect to us, specifically, and the biotechnology sector, in general. We make these statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Statements that include the words “expect,” “intend,” “plan,” “believe,” “project,” “estimate,” “may,” “should,” “anticipate,” “will” and similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise.

All forward-looking statements involve inherent risks and uncertainties, and there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to, those factors set forth under the caption “Risk Factors” in this prospectus supplement and in the accompanying base prospectus and under the captions “Risk Factors,” “Business,” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” in our most recent Annual Report on Form 10-K and our subsequent Quarterly Reports on Form 10-Q, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus supplement and the accompanying base prospectus. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should not assume that the information contained in this prospectus supplement is accurate as of any date other than the date on the front of this prospectus supplement, or that any information incorporated by reference into this prospectus supplement is accurate as of any date other than the date of the document so incorporated by reference. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

If one or more of these or other risks or uncertainties materializes, or if our underlying assumptions prove to be incorrect, actual results may vary materially from what we anticipate. All subsequent written and oral forward-looking statements attributable to us or individuals acting on our behalf are expressly qualified in their entirety by this Note. Before purchasing any shares of common stock, you should consider carefully all of the factors set forth or referred to in this prospectus supplement and in the accompanying base prospectus that could cause actual results to differ.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplement and in any related free writing prospectus, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be offered independently or in combination with common stock, preferred stock or debt securities offered by any prospectus supplement. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The following description of warrants will apply to the warrants offered by this prospectus unless we provide otherwise in the applicable prospectus supplement. The applicable prospectus supplement for a particular series of warrants may specify different or additional terms.

We have filed or will file forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants that may be offered as exhibits to the registration statement of which this prospectus is a part. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants. The following summaries of material terms and provisions of the warrants are subject to, and qualified in their entirety by reference to, all the provisions of the form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements applicable to a particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplement related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectus, and the complete form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements, that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered, including, to the extent applicable:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus is being passed upon by Parsons Behle & Latimer, Reno, Nevada. Blank Rome LLP, New York, New York has acted as securities counsel to Theriva Biologics, Inc. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement. A partner of Blank Rome LLP has options to purchase shares of stock of Theriva Biologics, Inc. that represent less than 1% of the outstanding shares of common stock of Theriva Biologics, Inc.

EXPERTS

The consolidated financial statements of Theriva Biologics, Inc. as of December 31, 2023 and 2022 and for each of the two years in the period ended December 31, 2023 incorporated by reference in this prospectus and in the registration statement of which this prospectus forms a part have been so incorporated in reliance on the report of BDO USA, P.C, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Neither we nor any agent, underwriter or dealer has authorized any person to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public at the SEC's website at www.sec.gov. Our SEC filings are also available on our website, www.therivabio.com under the heading "Investor Relations—SEC Filings." The reference to our website is an inactive textual reference only, the information contained in, and that can be accessed through our website, is not incorporated into and is not a part of this prospectus. We make available on our website our SEC filings as soon as reasonably practicable after those reports are filed with the SEC.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-12584):

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 filed with the SEC on March 25, 2024;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2024 filed with the SEC on May 7, 2024;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2024 filed with the SEC on August 13, 2024;
- Our Current Reports on Form 8-K filed with the SEC on February 7, 2024, April 22, 2024 (other than as set forth therein), April 23, 2024 (other than as set forth therein) and May 2, 2024, May 16, 2024, May 23, 2024, (other than as set forth therein) July 31, 2024 (other than as set forth therein), August 16, 2024, August 26, 2024 and September 9, 2024; and
- The description of our common stock set forth in (i) our registration statements on Form 8-A12B, filed with the SEC on June 20, 2007 (File No. 001-12584) and (ii) Exhibit 4.3—Description of Securities to our Annual Report on Form 10-K for the fiscal year ended December 31, 2023.



Up to \$2,894,225 of Shares
Common Stock

PROSPECTUS SUPPLEMENT

A.G.P.

October 29, 2025

PROSPECTUS

SUBJECT TO COMPLETION

Filed Pursuant to Rule 424(b)(5)
Reg. No. 333-291381**16,184,560 Shares
Of Common Stock**

This prospectus relates to the resale from time to time of up to an aggregate of 16,184,560 shares of common stock, par value \$0.001 per share (the "Common Stock"), of Theriva Biologics, Inc. by the Selling Stockholders identified in this prospectus (the "Selling Stockholders"), including their pledgees, assignees, donees, transferees or their respective successors-in-interest. The 16,184,560 shares of Common Stock registered hereunder are issuable upon exercise of New Warrants (defined below) that were issued to the Selling Stockholders on October 16, 2025 when we entered into a warrant inducement agreement (the "Warrant Inducement Agreement") with the Selling Stockholders, which were holders of previously issued common stock purchase warrants to purchase up to an aggregate of 8,092,280 shares of Common Stock, consisting of (i) common stock purchase warrants to purchase up to an aggregate of 1,345,000 shares of Common Stock issued on September 27, 2024 (the "September 2024 Warrants", and (ii) common stock purchase warrants to purchase up to an aggregate of 6,747,280 shares of Common Stock issued on May 8, 2025 (the "May 2025 Warrants" and, together with the September Warrants, the "Existing Warrants"). Pursuant to the Warrant Inducement Agreement, (1) the holders of the Existing Warrants (who are the Selling Stockholders named herein) agreed to exercise for cash the Existing Warrants at a reduced exercise price of \$0.54 per share and (2) we agreed to issue to the Selling Stockholders new common stock purchase warrants (the "New Warrants") to purchase up to an aggregate of 16,184,560 shares of Common Stock (sometimes referred to as the "New Warrant Shares").

We are filing this registration statement on Form S-3, of which this prospectus forms a part, to fulfill our contractual obligations with the Selling Stockholders to provide for the resale by the Selling Stockholders of the 16,184,560 shares of Common Stock offered hereby. See "Selling Stockholders" beginning on page 13 of this prospectus for more information about the Selling Stockholders. The registration of the shares of Common Stock to which this prospectus relates does not require the Selling Stockholders to sell any of their shares of Common Stock. We are not offering any shares of Common Stock under this prospectus and will not receive any proceeds from the sale or other disposition of the shares of Common Stock covered hereby. See "Use of Proceeds" beginning on page 6 of this prospectus.

The Selling Stockholders identified in this prospectus, or their respective pledgees, assignees, donees, transferees or their respective successors-in-interest, from time to time may offer and sell through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices the shares held by them directly or through underwriters, agents or broker-dealers on terms to be determined at the time of sale, as described in more detail in this prospectus. See "Plan of Distribution" beginning on page 16 of this prospectus for more information about how the Selling Stockholders may sell their respective shares of Common Stock. The Selling Stockholders may be deemed "underwriters" within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended (the "Securities Act").

Pursuant to the terms of the Warrant Inducement Agreement, we have agreed to bear all of the expenses in connection with the registration of the New Warrant Shares pursuant to the registration statement of which this prospectus forms a part. The Stockholders will pay or assume all commissions, discounts, fees of underwriters, agents, selling brokers or dealer managers and similar expenses, if any, attributable to their respective sales of the New Warrant Shares.

Our shares of Common Stock are listed on the NYSE American LLC (the "NYSE American") under the symbol "TOVX". On December 1, 2025, the closing price for our shares of Common Stock on the NYSE American was \$0.2189 per share.

Investing in our Common Stock involves risks. You should review carefully the risks described under the heading "Risk Factors" contained in this prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus, as described beginning on page 4 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense. The securities are not being offered in any jurisdiction where the offer is not permitted.

The date of this prospectus is December 2, 2025

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ABOUT THIS PROSPECTUS

You should rely only on the information we have provided or incorporated by reference into this prospectus and any related free writing prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus, any applicable prospectus or any related free writing prospectus. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus or any related free writing prospectus. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the shares of Common Stock offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security.

This prospectus and the documents incorporated by reference into this prospectus include statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We believe that the data obtained from these industry publications and third-party research, surveys and studies are reliable. We are ultimately responsible for all disclosure included in this prospectus.

The Selling Stockholders are offering shares of Common Stock only in jurisdictions where such issuances are permitted. The distribution of this prospectus and the issuance of the shares of Common Stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the issuance of the shares and the distribution of this prospectus outside the United States. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, the shares of Common Stock offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the sections entitled “Where You Can Find More Information” and “Incorporation of Certain Documents By Reference.”

Neither we nor any Selling Stockholders has authorized anyone to provide you with information different from that contained in this prospectus, any accompanying prospectus or in any related free-writing prospectus filed by us with the Securities and Exchange Commission (the “SEC”). Neither we nor any Selling Stockholder takes any responsibility for, or provides any assurance as to the reliability of, any information other than the information in this prospectus, any accompanying prospectus or in any related free-writing prospectus filed by us with the SEC. This prospectus and any accompanying prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus or any accompanying prospectus or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus, the documents incorporated by reference and any related free-writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus to “Theriva,” “the Company,” “we,” “us,” “our” and similar references refer to Theriva Biologics, Inc., an entity incorporated under the laws of the State of Delaware.

Smaller Reporting Company – Scaled Disclosure

Pursuant to Item 10(f) of Regulation S-K promulgated under the Securities Act of 1933, as amended, as indicated herein, we have elected to comply with the scaled disclosure requirements applicable to “smaller reporting companies,” including providing two years of audited financial statements.

THE OFFERING

Shares of common stock offered by the Selling Stockholders	16,184,560 shares
Common stock to be outstanding after this offering⁽¹⁾	49,924,203 shares of Common Stock, assuming the exercise of all of the New Warrants
Registration Rights	Under the terms of the Warrant Inducement Agreement, we agreed to file this registration statement with respect to the registration of the resale by the Selling Stockholders of the New Warrant Shares as soon as reasonably practicable and in any event by the 30 th calendar day following the date of the Warrant Inducement Agreement, and to use commercially reasonable efforts to cause this registration statement of which this prospectus forms a part to become effective within sixty (60) calendar days following the date of the Warrant Inducement Agreement (or within 90 calendar days following the date of the Warrant Inducement Agreement in case of a review of this registration statement by the SEC), provided, however, that if the SEC is closed for operations due to a government shutdown, the applicable deadline for this registration statement to become effective will be extended by the same amount of days that the SEC remains closed for operations, and to keep this registration statement effective at all times until no holder of the New Warrants owns any New Warrants or New Warrant Shares.
Use of Proceeds	The Stockholders will receive all of the proceeds of the sale of shares of Common Stock offered from time to time pursuant to this prospectus. Accordingly, we will not receive any proceeds from the sale of shares of Common Stock that may be sold from time to time pursuant to this prospectus; however, we will receive proceeds from the cash exercise of the New Warrants. See “Use of Proceeds.” We intend to use the proceeds from any cash exercise of the New Warrants for working capital and other general corporate purposes.
Plan of Distribution	The Selling Stockholders named in this prospectus, or their pledgees, donees, transferees, distributees, beneficiaries or other successors-in-interest, may offer or sell the shares of Common Stock offered hereby from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. The Stockholders may also resell the shares of Common Stock to or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions.
Risk Factors	See “Risk Factors” beginning on page 4 of this prospectus and in the documents incorporated by reference in this prospectus and the other information included in this prospectus for a discussion of factors you should carefully consider before investing in our securities.
NYSE American trading symbol	Our shares of Common Stock are listed on the NYSE American under the symbol “TOVX”.

(1) Based on 33,739,643 shares of Common Stock outstanding as of November 3, 2025, and excludes:

- 1,116,101 shares of Common Stock issuable upon the exercise of outstanding stock options with a weighted average exercise price of \$5.09 per share;
- 16,339,060 shares of Common Stock issuable upon the exercise of outstanding warrants to purchase Common Stock with a weighted average exercise price of \$0.55 per share; and
- 3,391,465 additional shares of the Common Stock reserved for future issuance under our equity incentive plans.

RISK FACTORS

This prospectus summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our Common Stock. You should read this entire prospectus and the documents incorporated by reference herein carefully, including the section entitled “Risk Factors” in this prospectus and under “Risk Factors” in our most recent Annual Report on Form 10-K, along with our consolidated financial statements and notes to those consolidated financial statements and the other information incorporated by reference in this prospectus, before deciding to invest in our Common Stock.

Risks Related to this Offering

The number of shares being registered for resale is significant in relation to the number of our outstanding shares of Common Stock.

We have filed a registration statement of which this prospectus forms a part to register the shares offered hereunder for sale into the public market by the Selling Stockholders. These shares represent a large number of shares of our outstanding shares of Common Stock, and if sold in the market all at once or at about the same time, could depress the market price of our Common Stock during the period the registration statement remains effective and could also affect our ability to raise equity capital.

Resales of our Common Stock in the public market by our stockholders as a result of this offering may cause the market price of our Common Stock to fall.

We are registering shares of Common Stock issuable upon the exercise of the New Warrants. Sales of substantial amounts of shares of our Common Stock in the public market, or the perception that such sales might occur, could adversely affect the market price of our Common Stock. The issuance of new shares of Common Stock could result in resales of our Common Stock by our current stockholders concerned about the potential ownership dilution of their holdings. Furthermore, in the future, we may issue additional shares of Common Stock or other equity or debt securities exercisable or convertible into Common Stock. Any such issuance could result in substantial dilution to our existing stockholders and could cause our stock price to decline.

Investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices and so may experience different levels of dilution and different outcomes in their investment results.

Our management will have broad discretion over the use of the net proceeds from the cash exercise of the New Warrants by the Selling Stockholders, and you may not agree with how we use the proceeds, and the proceeds may not be invested successfully.

The Selling Stockholders will receive all of the proceeds of the sale of shares of Common Stock offered from time to time pursuant to this prospectus. Accordingly, we will not receive any proceeds from the sale of shares of Common Stock that may be sold from time to time pursuant to this prospectus; however, we will receive proceeds from the cash exercise of the New Warrants. We intend to use the proceeds from any cash exercise of the New Warrants for working capital and other general corporate purposes. However, we have not designated any portion of the net proceeds from the exercise of New Warrants to be used for any particular purpose. Accordingly, our management will have broad discretion as to the use of the net proceeds, if any, and you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that, pending their use, we may invest the net proceeds in a way that does not yield a favorable, or any, return for our company. Our management’s judgment may not result in positive returns on your investment, and you will not have the opportunity to evaluate the economic, financial or other information upon which our management bases its decisions.

We do not intend to pay dividends in the foreseeable future on our Common Stock.

We have never paid cash dividends on our Common Stock. We currently intend to retain our future earnings, if any, to finance the operation and growth of our business and currently do not plan to pay any cash dividends in the foreseeable future. If we do not pay dividends, our Common Stock may be less valuable because a return on your investment will only occur if the market price of our Common Stock price appreciates.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents we file with the SEC that are incorporated by reference herein and therein contain “forward-looking statements” within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act, these statements reflect our current views with respect to our ongoing and planned clinical trials, business strategy, business plan, financial performance and other future events. These statements include forward-looking statements both with respect to us, specifically, and the biotechnology sector, in general. We make these statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Statements that include the words “expect,” “intend,” “plan,” “believe,” “project,” “estimate,” “may,” “should,” “anticipate,” “will” and similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise.

All forward-looking statements involve inherent risks and uncertainties, and there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to, those factors set forth under the caption “Risk Factors” in this prospectus and under the captions “Risk Factors,” “Business,” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” in our most recent Annual Report on Form 10-K and our subsequent Quarterly Reports on Form 10-Q, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the front of this prospectus, or that any information incorporated by reference into this prospectus is accurate as of any date other than the date of the document so incorporated by reference. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

If one or more of these or other risks or uncertainties materializes, or if our underlying assumptions prove to be incorrect, actual results may vary materially from what we anticipate. All subsequent written and oral forward-looking statements attributable to us or individuals acting on our behalf are expressly qualified in their entirety by this Note. Before purchasing any shares of Common Stock, you should consider carefully all of the factors set forth or referred to in this prospectus that could cause actual results to differ.

USE OF PROCEEDS

The Selling Stockholders will receive all of the proceeds of the sale of shares of Common Stock offered from time to time pursuant to this prospectus. Accordingly, we will not receive any proceeds from the sale of shares of Common Stock that may be sold from time to time pursuant to this prospectus; however, we will receive proceeds from the cash exercise of the New Warrants. We intend to use the proceeds from any cash exercise of the New Warrants for working capital and other general corporate purposes.

We will bear the out-of-pocket costs, expenses and fees incurred in connection with the registration of shares of Common Stock to be sold by the Selling Stockholders pursuant to this prospectus. Other than registration expenses, the Selling Stockholders will bear any underwriting discounts, commissions, placement agent fees or other similar expenses payable with respect to sales of shares of Common Stock.

DIVIDEND POLICY

We have never declared or paid any cash dividends on shares of Common Stock and we do not currently intend to pay any cash dividends on our Common Stock in the foreseeable future. We expect to retain all available funds and future earnings, if any, to fund the development and growth of our business. Any future determination to pay dividends, if any, on our shares of Common Stock will be at the discretion of our board of directors and will depend on, among other factors, the terms of any outstanding preferred stock, our results of operations, financial condition, capital requirements and contractual restrictions.

We are required to pay certain fees and expenses incurred by us incident to the registration of the securities.

We agreed to keep this prospectus effective until the date on which the New Warrants have been sold. Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the Common Stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the Common Stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

LEGAL MATTERS

Blank Rome LLP, New York, New York is representing us in connection with the offering. The validity of the shares of Common Stock offered hereby will be passed upon for us by Parsons Behle & Latimer, Reno, Nevada.

As of the date of this prospectus, an attorney of Blank Rome LLP beneficially owns securities exercisable to purchase shares of Common Stock that represent less than 1% of our outstanding shares of Common Stock.

EXPERTS

The consolidated financial statements of Theriva Biologics, Inc. (the Company) as of December 31, 2024 and 2023 and for each of the two years in the period ended December 31, 2024 incorporated by reference in this prospectus and in the registration statement have been so incorporated in reliance on the report of BDO USA, P.C, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Neither we nor any agent, underwriter or dealer has authorized any person to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public at the SEC's website at www.sec.gov. Additional information about Synthetic Biologics, Inc. is contained at our website, www.syntheticbiologics.com. Information on our website is not incorporated by reference into this prospectus. We make available on our website our SEC filings as soon as reasonably practicable after those reports are filed with the SEC. The following Corporate Governance documents are also posted on our website: Code of Ethics and the Charters for the Audit Committee, Compensation Committee and Nominating and Governance Committee of the Board of Directors.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus, and the registration statement of which this prospectus is a part, the information or documents listed below that we have filed with the SEC (Commission File No. 001-12584):

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2024 filed with the SEC on March 6, 2025;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2025 filed with the SEC on May 14, 2025;
- Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2025 filed with the SEC on August 11, 2025;
- Our Current Reports on Form 8-K filed with the SEC on March 31, 2025 (other than as set forth therein), May 7, 2025 (other than as set forth therein), May 8, 2025, June 2, 2025 (other than as set forth therein), June 20, 2025, June 25, 2025, September 4, 2025, October 2, 2025, October 6, 2025 (other than as set forth therein), October 8, 2025, October 14, 2025 (other than as set forth therein), October 17, 2025, October 20, 2025, October 24, 2025 and October 29, 2025; and
- The description of our Common Stock set forth in (i) our registration statement on Form 8-A12B, filed with the SEC on June 20, 2007 (File No. 001-12584) and (ii) Exhibit 4.2—Description of Securities of Theriva Biologics, Inc. to our Annual Report on Form 10-K for the fiscal year ended December 31, 2024.



**16,184,560 Shares
of Common Stock**

PROSPECTUS

December 2, 2025
