

PROSPECTUS SUPPLEMENT
(to Prospectus dated November 7, 2025)

380,469 Shares of Common Stock
Pre-Funded Warrants to Purchase up to 386,654 Shares of Common Stock (and 386,654 Shares of
Common Stock underlying such Pre-Funded Warrants)

ALAUNOS THERAPEUTICS, INC.

Pursuant to this prospectus supplement and the accompanying prospectus, Alaunos Therapeutics, Inc. (the “Company,” “we,” “our” and “us”) is offering to certain accredited investors (the “Purchasers”) (i) 380,469 shares of common stock of the Company, par value \$0.001 per share (the “common stock”), at a price of \$1.46 per share, and (ii) 386,654 pre-funded warrants at an offering price of \$1.459 per pre-funded warrant (equal to the price per share being sold in this offering minus \$0.001). The pre-funded warrants will be exercisable immediately at an exercise price of \$0.001 per share of common stock and may be exercised at any time until the pre-funded warrants are exercised in full. This offering also relates to the shares of common stock issuable upon exercise of the pre-funded warrants sold in this offering. The aggregate gross proceeds of this offering will be up to approximately \$1.1 million, before deducting placement agent fees and estimated offering expenses payable by us.

Our common stock is listed on The Nasdaq Capital Market under the symbol “TCRT.” On September 18, 2026, the last reported sale price of our common stock on The Nasdaq Capital Market was \$1.20 per share.

The aggregate market value of the outstanding shares of our common stock held by non-affiliates is approximately \$4,811,922, which was calculated in accordance with General Instruction I.B.6 of Form S-3 and is based on 2,302,355 shares outstanding held by non-affiliates, and a price per share of \$2.09, which was the closing price of our common stock on The Nasdaq Capital Market on July 21, 2026. Pursuant to General Instruction I.B.6 of Form S-3, in no event will the aggregate market value of securities sold by us or on our behalf in a primary offering pursuant to the registration statement of which this prospectus forms a part during any 12-calendar-month period exceed one-third of the aggregate market value of our common stock held by non-affiliates, so long as the aggregate market value of our common stock held by non-affiliates is less than \$75.0 million. During the 12 calendar months prior to and including the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.6 of Form S-3.

We have engaged Dawson James Securities, Inc. (“Dawson James” or the “Placement Agent”) to act as our sole placement agent in connection with this offering. The Placement Agent has agreed to use its reasonable best efforts to arrange for the sale of the securities offered by this prospectus supplement. 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 of securities or dollar amount. We will enter into securities purchase agreements directly with the Purchasers. See “Plan of Distribution” beginning on page S-17 of this prospectus supplement for more information regarding these arrangements.

	Per Share	Per Pre-Funded Warrant	Total
Public offering price	\$ 1.4600	\$ 1.4590	\$ 1,120,000.54
Placement agent fees ⁽¹⁾	\$ 0.1168	\$ 0.1167	\$ 89,600.04
Proceeds, before expenses, to us ⁽²⁾	\$ 1.3432	\$ 1.3423	\$ 1,030,400.50

- (1) We have agreed to pay the Placement Agent a cash fee equal to 8.0% of the aggregate gross proceeds raised in the offering. We have also agreed to reimburse the Placement Agent for fees and expenses of legal counsel and other out-of-pocket expenses up to \$40,000, plus up to \$10,000 for blue sky counsel fees. See “Plan of Distribution” for additional information.
- (2) Assumes all securities offered hereby are sold. Because this is a best-efforts offering with no minimum offering amount, the actual total public offering price, placement agent fees, and proceeds to us, if any, are not presently determinable and may be substantially less than the total amounts set forth above.

We are a smaller reporting company as defined under federal securities laws and, as such, may elect to comply with certain reduced public company reporting requirements for future filings. Investing in our securities involves certain risks. See “[Risk Factors](#)” on page S-7 of this prospectus supplement and on page 4 of the accompanying prospectus, and in the documents incorporated by reference herein and therein, for a discussion of the factors you should carefully consider before deciding to purchase our common stock.

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 delivery to the Purchasers in this offering is expected to be made on or about September 21, 2026, subject to satisfaction of certain customary closing conditions.

Sole Placement Agent

Dawson James Securities, Inc.

The date of this prospectus supplement is September 18, 2026.

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PROSPECTUS

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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 that we filed with the U.S. Securities and Exchange Commission (the “SEC”) utilizing a shelf registration process relating to the securities further described in this prospectus supplement, which became effective in accordance with the provisions of Section 8(a) of the Securities Act of 1933, as amended (“Securities Act”), on November 27, 2025. Under the shelf registration process, we may, in one or more offerings, offer and sell any combination, together or separately, of our common stock, preferred stock, debt securities, and warrants, or any combination thereof as described in the accompanying base prospectus of up to \$50,000,000 from time to time at prices to be determined by market conditions at the time of offering. We are selling shares of common stock and pre-funded warrants, including the underlying shares of common stock issuable upon the exercise of the pre-funded warrants in this offering.

We provide information to you about this offering of shares of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into the prospectus supplement; and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this “prospectus,” we are referring to both documents combined. You should read this entire prospectus supplement, as well as the accompanying prospectus and the documents incorporated by reference that are described under “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement. However, if any statement in one of these documents is inconsistent with a statement in a document having a later date incorporated by reference in this prospectus, the statement in the document incorporated by reference modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

You should rely only on the information contained in, or incorporated by reference into, this prospectus supplement, the accompanying prospectus, and in any free writing prospectus that we may authorize for use in connection with this offering. We have not, and the Placement Agent has not, authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making an offer to sell or soliciting an offer to buy our securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus supplement, the prospectus, the documents incorporated by reference herein and therein, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the prospectus, the documents incorporated by reference herein and therein, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision.

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 and the accompanying 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 unless you are a party to such agreement. Moreover, such representations, warranties, or covenants were accurate only as of the date when made or expressly referenced therein. Accordingly, such representations, warranties, and covenants should not be relied on as accurately representing the current state of our affairs unless you are a party to such agreement.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained in or incorporated by reference into this prospectus supplement, the accompanying base prospectus, our filings with the SEC and our public releases, including, but not limited to, information regarding the status and progress of our operating activities, the plans and objectives of our management, assumptions regarding our future performance and plans, and any financial guidance provided therein are forward-looking statements within the meaning of Section 27A(i) of the Securities Act of 1933 and Section 21E(i) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). The words “believe,” “may,” “will,” “estimate,” “continues,” “anticipate,” “intend,” “foresee,” “expect,” “should,” “could,” “plan,” “predict,” “project,” or their negatives and similar expressions identify these forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements contained in this prospectus supplement and the accompanying base prospectus are largely based on our expectations, which reflect estimates and assumptions made by our management. These estimates and assumptions reflect our best judgment based on currently known market conditions and other factors. Although we believe such estimates and assumptions to be reasonable, they are inherently uncertain and involve a number of risks and uncertainties that are beyond our control. In addition, management’s assumptions about future events may prove to be inaccurate. Management cautions all readers that the forward-looking statements contained in this prospectus supplement and the accompanying base prospectus are not guarantees of future performance, and we cannot assure any reader that such statements will be realized or the forward-looking events and circumstances will occur. Actual results may differ materially from those anticipated or implied in the forward-looking statements due to the factors listed in the “Risk Factors” section and elsewhere in this prospectus supplement and the accompanying base prospectus. All forward-looking statements speak only as of the date of this prospectus supplement. We do not intend to publicly update or revise any forward-looking statements as a result of new information, future events or otherwise. These cautionary statements qualify all forward-looking statements attributable to us, or persons acting on our behalf. The risks, contingencies and uncertainties relate to, among other matters, the following:

- Our preclinical obesity program, including our lead candidate ALN1003, is at an early stage and may not demonstrate safety or efficacy sufficient to obtain regulatory approval, and we may be unable to develop or commercialize ALN1003 or any related product candidates.
- We may require substantial additional financial resources to continue as a going concern, and if we raise additional funds it may affect the value of your investment in our common stock.
- Our ability to advance our preclinical obesity program is dependent on our ability to raise additional capital or partner these assets with other companies or research institutions.
- Our stock price has been, and may continue to be, volatile.
- We have identified a material weakness and failed to maintain an effective internal control environment, which may result in material misstatements of our financial statements or have a material adverse effect on our business or stock price.
- We may not be able to commercialize, generate significant revenues from, or attain profitability from our small molecule oral obesity program.
- Our small molecule obesity program is early stage and may encounter issues with manufacturing of the active pharmaceutical ingredient(s) or with the in vitro or in vivo studies that could preclude clinical trials or be costly to address with respect to time or money.
- The termination of our legacy TCR-T related licenses and research and development agreements could limit our ability to resume any TCR-T clinical trials.

- We may become involved in litigation, including securities class action litigation, that could divert management’s attention and harm our business, and insurance coverage may not be sufficient to cover all costs and damages.
- Our small molecule and immuno-oncology product candidates may face competition in the future from generics or biosimilars and/or new technologies, and our pending patent applications may not be granted, further limiting our ability to compete with other companies.
- If we fail to adequately protect or enforce our intellectual property rights or secure rights to patents of others, the value of our intellectual property rights would diminish and our ability to successfully commercialize our products may be materially impaired.
- Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us, which may be beneficial to our stockholders, more difficult.
- Because we do not expect to pay dividends, you will not realize any income from an investment in our common stock unless and until you sell your shares at a profit.
- The exercise of outstanding warrants, and issuance of equity awards may have a dilutive effect on our stock, and negatively and materially impact the price of our common stock.
- We are a “smaller reporting company,” and the reduced disclosure requirements applicable to smaller reporting companies may make our common stock less attractive to investors.
- Other risks described from time to time in periodic and current reports that we file with the SEC.

Other factors besides those described in this prospectus supplement and the accompanying base prospectus or the documents we incorporate by reference herein could also affect our actual results. These forward-looking statements are largely based on our expectations and beliefs concerning future events, which reflect estimates and assumptions made by our management. These estimates and assumptions reflect our best judgment based on currently known market conditions and other factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control.

ABOUT THE COMPANY

This summary description about us and our business highlights selected information contained elsewhere in this prospectus supplement or incorporated in this prospectus supplement by reference. This summary does not contain all of the information you should consider before buying common stock in this offering. You should carefully read this entire prospectus supplement, the accompanying prospectus, and any free writing prospectus, including each of the documents incorporated herein or therein by reference, before making an investment decision. Unless otherwise indicated or the context otherwise requires, references in this prospectus supplement to “Alaunos Therapeutics, Inc.,” the “Company,” “we,” “us,” and “our” refer to Alaunos Therapeutics, Inc. and its subsidiaries.

Company Overview

We are a preclinical-stage biopharmaceutical company focused on the development of novel, orally administered small-molecule therapeutics for obesity and related metabolic disorders, such as metabolic dysfunction-associated steatotic liver disease (MASLD, a type of fatty liver disease). The program aims to develop a differentiated, non-hormonal, non-incretin approach, unlike hormone-based treatments like GLP-1 drugs. On March 2, 2026, we announced positive preclinical proof-of-concept data for ALN1003 from two separate studies using a standard diet-induced obesity (DIO) mouse model in male C57BL/6 mice maintained on a high-fat diet (60% of calories from fat). Highlights from these studies include dose-dependent body weight loss with favorable body composition changes, reductions in liver weight, improvement in liver function biomarkers, and improvement in metabolic biomarkers. Collectively, these findings suggest encouraging metabolic effects of ALN1003 in the DIO model. We were previously a clinical-stage oncology-focused cell therapy company developing adoptive TCR-T cell therapies. We have not generated any product revenue and have incurred significant net losses in each year since our inception. For the year ended December 31, 2025, we reported a net loss of \$4.2 million and an accumulated deficit of \$924.6 million as of that date. We expect to continue incurring substantial operating losses and will require significant additional capital to fund operations and advance our programs.

Recent Developments

Second Amended and Restated By-Laws

On September 16, 2026, our Board of Directors approved and adopted the Second Amended and Restated By-Laws of the Company (the “Second Amended and Restated By-Laws”), effective immediately. The Second Amended and Restated By-Laws amend and restate in their entirety the Company’s Amended and Restated By-Laws adopted January 8, 2026. The principal substantive change is an amendment to Article 2, Section 2.8. Under the prior By-Laws, the presence in person or by proxy of the holders of a majority in voting power of all outstanding shares of stock entitled to vote at a meeting of stockholders constituted a quorum. The Second Amended and Restated By-Laws provide that the presence in person or by proxy of the holders of one-third (1/3) in voting power of all outstanding shares of stock entitled to vote at a meeting of stockholders constitutes a quorum. The provisions governing adjournment in the absence of a quorum are otherwise unchanged. The Second Amended and Restated By-Laws also include certain conforming, clarifying, and non-substantive changes, including updates to defined terms and minor typographical and formatting corrections. The quorum requirement applicable to meetings of the Board of Directors and committees of the Board remains a majority.

Corporate Information

We originally incorporated in Colorado in September 1998 (under the name Net Escapes, Inc.) and later changed our name to “EasyWeb, Inc.” in February 1999. We re-incorporated in Delaware on May 16, 2005 under the same name. On September 13, 2005, we completed a “reverse” acquisition of privately held Ziopharm, Inc., a Delaware corporation. To effect this transaction, we caused ZIO Acquisition Corp., our wholly-owned subsidiary, to merge with and into Ziopharm, Inc., with Ziopharm, Inc. surviving as our wholly owned subsidiary. Following the merger, we caused Ziopharm, Inc. to merge with and into us and we changed our name to “Ziopharm Oncology, Inc.” As a result, Ziopharm, Inc. became the registrant with the SEC, and the historical financial statements of Ziopharm, Inc. became

our historical financial statements. On January 25, 2022, we filed a Certificate of Amendment to our Amended and Restated Certificate of Incorporation with the Delaware Secretary of State to change our name to Alaunos Therapeutics, Inc.

Our principal executive offices are located at 501 E. Las Olas Blvd., Suite 300, Fort Lauderdale, Florida 33301, and our telephone number is (346) 355-4099.

Our corporate website address is www.alaunos.com. We make available on or through our website our periodic reports that we file with the SEC. Information contained in, or accessible through, our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only. The contents of our website are not incorporated by reference into this document and shall not be deemed “filed” under the Exchange Act.

THE OFFERING

S-6

Common stock offered by us pursuant to this prospectus supplement

380,469 shares
of common
stock, par value
\$0.001 per
share.

Pre-funded warrants offered by us pursuant to this prospectus supplement

We are also offering pre-funded warrants to purchase up to an aggregate of 386,654 shares of common stock. The purchase price of each pre-funded Warrant is \$1.459. Each pre-funded warrant is exercisable for one share of our common stock. The exercise price of each pre-funded warrant is \$0.001 per share. The pre-funded warrants are exercisable immediately and may be exercised at any time until all of the pre-funded warrants are exercised in full. This offering also relates to the shares of common stock issuable upon exercise of the pre-funded warrants sold in this offering.

Offering price	\$1.46 per share of common stock
Common stock outstanding before this offering⁽¹⁾	2,546,666 shares
Common stock to be outstanding after the offering⁽¹⁾	3,313,789 shares (assumes the exercise of all pre-funded warrants sold in this offering)
Use of Proceeds	We intend to use the net proceeds, if any, from this offering for working capital and general corporate purposes. See “Use of Proceeds” beginning on page S-12 of this prospectus supplement.

Risk Factors

Investing in our common stock involves significant risks. Please read the information contained in and incorporated by reference under the heading “Risk Factors” on page S-7 of this prospectus supplement and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus supplement, together with the other information included in or incorporated by reference into this prospectus supplement, before deciding whether to invest in our common stock.

The Nasdaq Capital Market Symbol

TCRT

(1) Based on shares outstanding as of September 18, 2026, excluding the following shares of common stock reserved for issuance as of that date.

- Stock options representing a total of 220,645 shares of common stock issuable upon exercise.
- Warrants representing a total of 106,452 shares of common stock issuable upon exercise.
- A total of 208,827 shares of common stock issuable upon the conversion of Series A-1 convertible preferred stock.
- A total of 213,893 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock.

RISK FACTORS

An investment in our common stock involves a high degree of risk. You should consider carefully the risks described below and discussed under the section captioned “Risk Factors” contained in our most recent Annual Report on Form 10-K, as revised or supplemented by our Quarterly Reports on Form 10-Q or Current Reports on Form 8-K since the filing of our most recent Annual Report on Form 10-K, each of which is incorporated by reference in this prospectus supplement in their entirety, together with other information in this prospectus supplement, and the information and documents incorporated by reference in this prospectus supplement and any accompanying base prospectus with respect to this offering filed by us with the SEC, before you make a decision to invest in our common stock. The risks and uncertainties described below are not the only ones we face. Other risks and uncertainties, including those that we do not currently consider material, may impair our business. If any of these risks actually occur, our business, financial condition, operating results or cash flows could be materially adversely affected. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read “Cautionary Note Regarding Forward-Looking Statements” in this prospectus supplement.

This offering is being made on a best-efforts basis and we may sell fewer than all of the securities offered hereby and may receive significantly less in net proceeds from this offering, which will provide us only limited working capital.

This offering is being made on a best-efforts basis and we may sell fewer than all of the securities offered hereby and may receive significantly less in net proceeds from 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 or amount of proceeds that must be sold as a condition to completion of this offering. Because there is no minimum number of securities or amount of proceeds required as a condition to the closing of this offering, the actual offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth within this prospectus.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase in the offering.

The offering price per share in this offering exceeds the pro forma net tangible book value per share of our common stock outstanding as of June 30, 2026. See the section titled “Dilution” below for a more detailed illustration of the dilution you would incur if you participate in this offering. See “—You may experience significant dilution as a result of future financings and the exercise of outstanding options” below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

There is no public market for the pre-funded warrants being offered in this offering.

There is no established public trading market for the 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 pre-funded warrants on any securities exchange or nationally recognized trading system, including The Nasdaq Capital Market. Without an active market, the liquidity of the pre-funded warrants will be limited.

The pre-funded warrants are speculative in nature.

Except as otherwise provided in the pre-funded warrants, until holders of pre-funded warrants acquire our common stock upon exercise of the pre-funded warrants, holders of pre-funded warrants will have no rights with respect to our common stock underlying such pre-funded warrants. Upon exercise of the pre-funded warrants, the holders will be entitled to exercise the rights of a stockholder of our common stock only as to matters for which the record date occurs after the exercise date.

We will not receive any meaningful amount of additional funds upon the exercise of the pre-funded warrants.

Each pre-funded warrant will be exercisable until it is fully exercised and by means of payment of the nominal cash purchase price upon exercise or through a “cashless exercise” procedure. Accordingly, we will not receive any meaningful additional funds upon the exercise of the pre-funded warrants.

Holders of pre-funded warrants purchased in this offering will have no rights as common stockholders until such holders exercise such pre-funded warrants and acquire our common stock.

Until holders of pre-funded warrants acquire shares of our common stock upon exercise of such pre-funded warrants, holders of pre-funded warrants will have no rights with respect to the shares of our common stock underlying such pre-funded warrants. Upon exercise of the pre-funded warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Significant holders or beneficial holders of shares of our common stock may not be permitted to exercise the pre-funded warrants that they hold.

A holder of the pre-funded warrants will not be entitled to exercise any portion of any pre-funded warrant that, upon giving effect to such exercise, would cause the aggregate number of shares of our common stock beneficially owned by such holder (together with its affiliates) to exceed 4.99% (or 9.99% at the election of the holder) of the number of shares of our common stock immediately after giving effect to the exercise. As a result, you may not be able to exercise your pre-funded warrants for shares of our common stock at a time when it would be financially beneficial for you to do so. In such a circumstance, you could seek to sell your pre-funded warrants to realize value, but you may be unable to do so in the absence of an established trading market and due to applicable transfer restrictions.

You may experience significant dilution as a result of future financings and the exercise of outstanding options.

In order to raise additional capital, we may issue additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future offerings pursuant to the accompanying prospectus. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by the Purchasers, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

Our stock price has been and is likely to be volatile.

The market price of our common stock has been and is likely to be subject to wide fluctuations. For example, the market price of our common stock has fluctuated from an intra-day low of \$1.02 to an intra-day high of \$4.59 over the 12 months preceding the date of this prospectus supplement. This volatility may affect the price at which you could sell shares of our common stock, and the sale of substantial amounts of our common stock could adversely affect the price of our common stock. Our stock price is likely to continue to be volatile and subject to significant price and volume fluctuations in response to market and other factors, including, among other things those described elsewhere in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein, and other factors beyond our control, such as fluctuations in the valuation of companies perceived by investors to be comparable to us. For example, announcements made by competitors regarding factors influencing their business may cause fluctuations in the valuation of companies throughout our industry, including fluctuations in the valuation of our stock.

Furthermore, the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes or international currency fluctuations, may negatively affect the market price of our common stock.

We will have broad discretion in the use of the net proceeds from this offering and may allocate the net proceeds from this offering in ways that you and other stockholders may not approve.

Our management will have broad discretion in the use of the net proceeds, including for any of the purposes described in the section entitled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure of our management to use these funds effectively could have a material adverse effect on our business and cause the market price of our common stock to decline.

We are currently deficient under Nasdaq’s stockholders’ equity continued listing requirement and remain at risk of delisting, which could materially harm our liquidity, stock price, and ability to consummate strategic transactions.

On April 9, 2026, we received a notice (“Notice”) from Nasdaq that our stockholders’ equity, as reported in our Annual Report on Form 10-K for the year ended December 31, 2025 (“2025 Form 10-K”), did not satisfy Nasdaq Listing Rule 5550(b)(1) for continued listing on The Nasdaq Capital Market, which requires that certain issuers report stockholders’ equity of at least \$2.5 million (the “Equity Rule”). In its 2025 Form 10-K, the Company reported stockholders’ equity of \$2.2 million and, as a result, does not currently satisfy the Equity Rule.

The Notice had no immediate effect on the Company’s listing on The Nasdaq Capital Market. The Company thereafter submitted its plan to regain compliance with the Equity Rule and is actively working with Nasdaq as it reviews and responds to the Company’s plan.

In the event that the Company’s plan is not accepted, or that the plan is granted by the staff at Nasdaq, but the Company is unable to regain compliance within the plan period, the Company would have the right to request a hearing before an independent Nasdaq hearings panel. The request for a hearing would result in a stay of any suspension or delisting action pending the conclusion of the hearing process.

Given our current trading price of approximately \$1.20 per share, , our stock price remains volatile and a future decline could trigger a separate Nasdaq listing deficiency notice under Listing Rule 5550(a)(2).

If our common stock is delisted by Nasdaq (whether due to stockholders’ equity, minimum bid price, or non-compliance with any other rule), it could lead to a number of negative implications, including an adverse effect on the price of our common stock, deterring broker-dealers from making a market in or otherwise seeking or generating interest in our common stock, increased volatility in our common stock, reduced liquidity in our common stock, the loss of federal preemption of state securities laws and greater difficulty in obtaining financing. Delisting could also cause a loss of confidence of our collaborators, vendors, suppliers and employees, which could harm our business and future prospects.

If our common stock is delisted by Nasdaq, the price of our common stock may decline, and although our common stock may be eligible to trade on the OTC Markets system, an investor may find it more difficult to dispose of their common stock or obtain accurate quotations as to the market value of our common stock. If our common stock is delisted from Nasdaq, trading in our securities may be subject to the SEC’s “penny stock” rules. The “penny stock” rules would require brokers trading in our common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our common stock. The additional burdens imposed upon broker-dealers by these requirements may discourage broker-dealers from recommending transactions in our securities, which could severely limit the liquidity of our securities and consequently adversely affect the market price for our securities. Furthermore, if our common stock is delisted from Nasdaq, we would expect it to have an adverse impact on our ability to raise capital or advance our obesity and metabolic disorders program.

Further, if our common stock is delisted, we would incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common stock and the ability of our stockholders to sell our common stock in the secondary market.

We have identified a material weakness and may identify more in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or could have a material adverse effect on our business and trading price of our securities.

We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”), and the rules and regulations of the Nasdaq Capital Market. Pursuant to Section 404 of the Sarbanes-Oxley Act, we are required to perform system and process evaluation and testing of our internal control over financial reporting to allow our management to report on the effectiveness of our internal control over financial reporting. Based on that evaluation, our principal executive officer and principal financial officer have concluded that as of December 31, 2025, our disclosure controls and procedures were not effective due to a material weakness in internal control over financial reporting related to the lack of sufficient personnel to allow for the required segregation of duties. We may also be required to have our independent registered public accounting firm issue an opinion on the effectiveness of our internal control over financial reporting on an annual basis.

We have identified material weaknesses in our internal control over financial reporting in the past. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our financial statements will not be prevented or detected on a timely basis. Our Chief Executive Officer is currently our only full-time employee and performs or oversees multiple functions. We also rely on outside consultants, including for accounting and financial reporting functions. Although the material weaknesses identified in the past have been remediated, we cannot assure you that any measures we have taken or may take in the future will be sufficient to avoid potential future material weaknesses. If we are unable to successfully remediate any future material weakness and maintain effective internal controls, we may not have adequate, accurate or timely financial information, and we may be unable to meet our reporting obligations as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to accurately report our financial results in future periods, or report them within the timeframe required by the requirements of the SEC, Nasdaq or the Sarbanes-Oxley Act. Failure to comply with the Sarbanes-Oxley Act, when and as applicable, could also potentially subject us to sanctions or investigations by the SEC or other regulatory authorities. Any failure to maintain or implement required new or improved controls, or any difficulties we encounter in their implementation, could result in the identification of additional material weaknesses or significant deficiencies, cause us to fail to meet our reporting obligations or result in material misstatements in our financial statements. Furthermore, if we cannot provide reliable financial reports or prevent fraud, our business, financial condition, results of operations, cash flows and prospects could be materially harmed and investors could lose confidence in our reported financial information.

Our need for future financing may result in the issuance of additional securities which will cause investors to experience dilution.

Our cash requirements may vary from those now planned depending upon numerous factors, including our results of operations. We expect our expenses to increase if and when we expand our business. Accordingly, we may need to obtain substantial additional funding in connection with our continuing operations. There are no other commitments by any person for future financing. Our securities may be offered to other investors at a price lower than the price per share offered to current stockholders, or upon terms which may be deemed more favorable than those offered to current stockholders. In addition, the issuance of securities in any future financing may dilute an investor’s equity ownership and have the effect of depressing the market price for our securities. Moreover, we may issue derivative securities, including options and/or warrants, from time to time, to procure qualified personnel or for other business reasons. The issuance of any such derivative securities, which is at the discretion of our board of directors, may further dilute the equity ownership of our stockholders.

We may sell shares of common stock or other securities in any other offering at a price per share that is less than the price per share paid by the Purchasers, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by the Purchasers. No assurance can be given as to our ability to procure additional financing, if required, and on terms deemed favorable to us. To the extent additional capital is required and cannot be raised successfully, we may then have to limit our then current operations and/or may have to curtail certain, if not all, of our business objectives and plans.

Future sales of our common stock in the public market or other financings could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market, and the perception that such sales might occur in the future or the occurrence of other financings, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. A substantial majority of the outstanding shares of our common stock are, and all of the shares sold in this offering upon issuance will be, freely tradable without restriction or further registration under the Securities Act of 1933, as amended (the “Securities Act”), unless these shares are owned or purchased by “affiliates” as that term is defined in Rule 144 under the Securities Act (“Rule 144”). In addition, shares of common stock issuable upon exercise of outstanding options, restricted stock units and shares reserved for future issuance under our incentive stock plan will be eligible for sale in the public market to the extent permitted by applicable vesting requirements and, in some cases, subject to compliance with the requirements of Rule 144. As a result, these shares can be freely sold in the public market upon issuance, subject to restrictions under the securities laws.

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 and do not anticipate declaring or paying any cash dividends in the foreseeable future. In addition, the terms of our existing debt agreements 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 the Purchasers for the foreseeable future.

Certain provisions of the pre-funded warrants could discourage an acquisition of us by a third party.

Certain provisions of the pre-funded warrants offered by this prospectus supplement could make it more difficult or expensive for a third party to acquire us. The pre-funded warrants prohibit us from engaging in certain transactions constituting “fundamental transactions” unless, among other things, the surviving entity assumes our obligations under the pre-funded warrants. These and other provisions of the pre-funded warrants offered by this prospectus could prevent or deter a third party from acquiring us even where the acquisition could be beneficial to you.

We have identified a material weakness and may identify more in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or could have a material adverse effect on our business and trading price of our securities.

We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”), and the rules and regulations of the Nasdaq Capital Market. Pursuant to Section 404 of the Sarbanes-Oxley Act, we are required to perform system and process evaluation and testing of our internal control over financial reporting to allow our management to report on the effectiveness of our internal control over financial reporting. Based on that evaluation, our principal executive officer and principal financial officer have concluded that as of December 31, 2025, our disclosure controls and procedures were not effective due to a material weakness in internal control over financial reporting related to the lack of sufficient personnel to allow for the required segregation of duties. We may also be required to have our independent registered public accounting firm issue an opinion on the effectiveness of our internal control over financial reporting on an annual basis.

We have identified material weaknesses in our internal control over financial reporting in the past. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our financial statements will not be prevented or detected on a timely basis. Our Chief Executive Officer is currently our only full-time employee and performs or oversees multiple functions. We also rely on outside consultants, including for accounting and financial reporting functions. Although the material weaknesses identified in the past have been remediated, we cannot assure you that any measures we have taken or may take in the future will be sufficient to avoid potential future material weaknesses. If we are unable to successfully remediate any future material weakness and maintain effective internal controls, we may not have adequate, accurate or timely financial information, and we may be unable to meet our reporting obligations as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to accurately report our financial results in future periods, or report them within the timeframe required by the requirements of the SEC, Nasdaq or the Sarbanes-Oxley Act. Failure to comply with the Sarbanes-Oxley Act, when and as applicable, could also potentially subject us to sanctions or investigations by the SEC or other regulatory authorities. Any failure to maintain or implement required new or improved controls, or any difficulties we encounter in their implementation, could result

in the identification of additional material weaknesses or significant deficiencies, cause us to fail to meet our reporting obligations or result in material misstatements in our financial statements. Furthermore, if we cannot provide reliable financial reports or prevent fraud, our business, financial condition, results of operations, cash flows and prospects could be materially harmed and investors could lose confidence in our reported financial information.

Our need for future financing may result in the issuance of additional securities which will cause investors to experience dilution.

Our cash requirements may vary from those now planned depending upon numerous factors, including our results of operations. We expect our expenses to increase if and when we expand our business. Accordingly, we may need to obtain substantial additional funding in connection with our continuing operations. There are no other commitments by any person for future financing. Our securities may be offered to other investors at a price lower than the price per share offered to current stockholders, or upon terms which may be deemed more favorable than those offered to current stockholders. In addition, the issuance of securities in any future financing may dilute an investor's equity ownership and have the effect of depressing the market price for our securities. Moreover, we may issue derivative securities, including options and/or warrants, from time to time, to procure qualified personnel or for other business reasons. The issuance of any such derivative securities, which is at the discretion of our board of directors, may further dilute the equity ownership of our stockholders.

We may sell shares of common stock or other securities in any other offering at a price per share that is less than the price per share paid by the Purchasers, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by the Purchasers. No assurance can be given as to our ability to procure additional financing, if required, and on terms deemed favorable to us. To the extent additional capital is required and cannot be raised successfully, we may then have to limit our then current operations and/or may have to curtail certain, if not all, of our business objectives and plans.

Future sales of our common stock in the public market or other financings could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market, and the perception that such sales might occur in the future or the occurrence of other financings, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. A substantial majority of the outstanding shares of our common stock are, and all of the shares sold in this offering upon issuance will be, freely tradable without restriction or further registration under the Securities Act of 1933, as amended (the "Securities Act"), unless these shares are owned or purchased by "affiliates" as that term is defined in Rule 144 under the Securities Act ("Rule 144"). In addition, shares of common stock issuable upon exercise of outstanding options, restricted stock units and shares reserved for future issuance under our incentive stock plan will be eligible for sale in the public market to the extent permitted by applicable vesting requirements and, in some cases, subject to compliance with the requirements of Rule 144. As a result, these shares can be freely sold in the public market upon issuance, subject to restrictions under the securities laws.

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 and do not anticipate declaring or paying any cash dividends in the foreseeable future. In addition, the terms of our existing debt agreements 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 the Purchasers for the foreseeable future.

USE OF PROCEEDS

We estimate the net proceeds to us from the sale of our common stock in this offering will be approximately \$915.4 thousand after deducting the fees and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering for general corporate purposes, which may include, among other things, capital expenditures and working capital. We may also use such proceeds to fund acquisitions of businesses that complement our current business; except as otherwise disclosed in the SEC filings, we have no present plans, agreements or commitments with respect to any potential acquisition.

Purchasers are cautioned, however, that expenditures may vary substantially from these uses. Purchasers will be relying on the judgment of our management, who will have broad discretion regarding the application of the proceeds of this offering. The amounts and timing of our actual expenditures will depend upon numerous factors, including the amount of cash generated by our operations, competition and other operational factors. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes.

DIVIDEND POLICY

We have never declared or paid any cash dividend on our common stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any determination to declare or pay dividends in the future will be at the discretion of our board of directors and will depend on a number of factors, including our financial condition, operating results, capital requirements, general business conditions, and other factors that our board of directors may deem relevant.

The holders of our Series A-1 Convertible Preferred Stock and Series A-2 Convertible Preferred Stock (collectively, the “Series A Preferred Stock”) will be entitled to receive dividends at a rate of 10% per annum, payable in shares of Series A Preferred Stock. In addition, to the extent any other dividends or distributions are declared for holders of our common stock, the holders of our Series A Preferred Stock will be entitled to participate in such dividends or distributions on an as-converted basis.

DILUTION

If you invest in our common stock, your interest will be diluted immediately to the extent of the difference between the public offering price per share of our common stock and the net tangible book value per share of our common stock after this offering.

The net tangible book value of our common stock as of June 30, 2026 was approximately \$652 thousand, or approximately \$0.26 per share of common stock. Net tangible book value per share represents the quotient calculated by dividing (i) our total tangible assets less total liabilities by (ii) the total number of shares of our common stock outstanding as of June 30, 2026.

After giving effect to the sale of 380,469 shares of common stock in this offering at an offering price of \$1.46 per share and pre-funded warrants to purchase up to 386,654 shares of common stock at an offering price of \$1.459 per pre-funded warrant, the full exercise of the pre-funded warrants, and after deducting Placement Agent fees and estimated aggregate offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2026 would have been approximately \$1.57 million, or approximately \$0.47 per share. This represents an immediate increase in net tangible book value of approximately \$0.21 per share to our existing stockholders and an immediate dilution in as adjusted net tangible book value of approximately \$0.99 per share to the Purchasers, as illustrated by the following table:

Assumed public offering price per share of our common stock or pre funded warrant	\$ 1.46
Net tangible book value per share of our common stock as of June 30, 2026	\$ 0.26
Increase in net tangible book value per share of our common stock attributable to the Purchasers	\$ 0.21
As adjusted net tangible book value per share of our common stock as of June 30, 2026 after giving effect to this offering	\$ 0.47
Dilution in net tangible book value per share of our common stock to the Purchasers	\$ 0.99

The table above assumes for illustrative purposes that an aggregate of 380,469 shares of our common stock are sold at a price of \$1.46 per share and that an aggregate of 386,654 shares of common stock are sold under the pre-funded warrants at a price of \$1.459 per pre-funded warrant, for aggregate gross proceeds of approximately \$1.1 million.

The above discussion and table are based on 2,486,140 actual shares of common stock outstanding as of June 30, 2026, and excludes, as of such date, 225,550 shares of common stock issuable upon exercise of stock options, 136,327 shares of common stock issuable upon exercise of warrants, and shares of common stock issuable upon the conversion of Series A-1 and Series A-2 convertible preferred stock.

To the extent that any of these outstanding securities are exercised or converted or we issue additional securities under our equity incentive plans, there will be further dilution to new investors. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity, equity-linked securities, or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering shares of our common stock and pre-funded warrants in this offering. The following description of our common stock and pre-funded warrants summarizes the material terms and provisions thereof, including the material terms of the common stock and pre-funded warrants we are offering under this prospectus supplement and the accompanying base prospectus.

Common Stock

See “Description of Capital Stock” in the accompanying base prospectus for more information regarding our shares of common stock.

Pre-Funded Warrants

The following summary of certain terms and provisions of the pre-funded warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrants, the form of which will be filed as an exhibit to our Current Report on Form 8-K that we will file with the SEC. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

Duration and Exercise Price. Each pre-funded warrant offered hereby has an initial exercise price per share equal to \$0.001. The pre-funded warrants are immediately exercisable and may be exercised at any time until the pre-funded warrants are exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price.

Exercisability. The pre-funded warrants are 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 our 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 pre-funded warrant to the extent that the holder would own more than 4.99% of the outstanding common stock (or, at the election of the purchaser, 9.99%). No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will pay cash or round up to the next whole share.

Cashless Exercise. If at the time of exercise under the pre-funded warrant, there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of, the shares of common stock pursuant to the warrant, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Transferability. Subject to applicable laws, a pre-funded warrant may be transferred at the option of the holder upon surrender of the pre-funded warrant to us together with the appropriate instruments of transfer.

Exchange Listing. There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system. We do not intend to list the pre-funded warrants on any securities exchange or nationally recognized trading system.

Right as a Stockholder. Except as otherwise provided in the pre-funded warrants or by virtue of such holder’s ownership of shares of our common stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their pre-funded warrants.

Fundamental Transaction. In the event of a fundamental transaction, as described in the pre-funded warrants and generally including (i) any merger or consolidation of our company with or into another person, (ii) any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of our assets, (iii) any purchase offer, tender offer or exchange offer pursuant to which holders of common stock are permitted to sell, tender or exchange their shares and that has been accepted by the holders of 50% or more of the outstanding common stock or

50% or more of the voting power of our common equity, (iv) any reclassification, reorganization or recapitalization of our common stock or any compulsory share exchange pursuant to which our common stock is effectively converted into or exchanged for other securities, cash or property, or (v) any stock or share purchase agreement or other business combination with another person or group of persons whereby such other person or group acquires more than 50% of the outstanding common stock or more than 50% of the voting power of our common equity, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the number of shares of common stock of the successor or acquiring corporation or of ours, if we are the surviving corporation, and any additional consideration receivable as a result of such fundamental transaction by a holder of the number of shares of common stock for which the pre-funded warrants are exercisable immediately prior to such fundamental transaction. The company or successor entity will be required to assume all obligations under the pre-funded warrants and, at the option of the holder, deliver to the holder in exchange for the pre-funded warrant a security of the successor entity substantially similar in form and substance to the pre-funded warrant exercisable for a corresponding number of shares of capital stock of the successor entity.

PLAN OF DISTRIBUTION

We have engaged the Placement Agent to act as our exclusive placement agent to solicit offers to purchase the securities offered by this prospectus supplement on a reasonable best-efforts basis, pursuant to a placement agency agreement dated September 18, 2026 (the “Placement Agency Agreement”). The Placement Agent is not purchasing or selling any of the securities offered by this prospectus supplement, nor is it required to arrange the purchase or sale of any specific number or dollar amount of securities, but has agreed to use its reasonable best efforts to arrange for the sale of the securities offered hereby. Therefore, we may not sell the entire amount of securities offered pursuant to this prospectus supplement. The Placement Agent may engage one or more sub-placement agents or selected dealers to assist with the offering.

We will enter into securities purchase agreements directly with the Purchasers. Purchasers who do not enter into a securities purchase agreement shall rely solely on this prospectus supplement and the accompanying prospectus and the documents incorporated by reference herein and therein in connection with the purchase of our securities in this offering. In addition to rights and remedies available to all Purchasers in this offering under federal securities and state law, the Purchasers who enter into securities purchase agreements will also be able to bring claims of breach of contract against us. The ability to pursue a claim for breach of contract is material to larger Purchasers in this offering as a means to enforce the covenants uniquely available to them under the securities purchase agreements.

We will deliver the securities being issued to the Purchasers upon receipt of such Purchaser’s funds for the purchase of the securities offered pursuant to this prospectus supplement. We will deliver all securities to be issued in connection with this offering delivery versus payment (“DVP”) receipt versus payment (“RVP”) upon receipt of Purchaser funds received by us. We expect to deliver the securities being offered pursuant to this prospectus supplement on or about September 21, 2026, subject to customary closing conditions.

We have agreed to indemnify the Placement Agent and specified other persons against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the Placement Agent may be required to make in respect thereof.

Fees and Expenses

We have agreed to pay the Placement Agent a cash fee equal to 8.0% of the aggregate gross proceeds raised in this offering. We have also agreed to reimburse the Placement Agent for fees and expenses of legal counsel and other out-of-pocket diligence expenses in an amount up to \$40,000, plus up to \$10,000 for blue sky counsel fees. After deducting the Placement Agent fees and our estimated offering expenses, we expect the net proceeds from this offering to be approximately \$915.4 thousand, assuming the sale of all of the securities offered hereby for aggregate gross proceeds of approximately \$1.1 million.

Lock-Up Provisions

We have agreed with the Placement Agent, pursuant to the Placement Agency Agreement, to be subject to a lock-up period of 15 days following the date of this prospectus supplement. This means that, during the applicable lock-up period, we may not offer for sale, contract to sell, or sell any shares of our common stock or any securities convertible into or exchangeable for shares of our common stock, subject to certain customary exceptions. In addition, each of our officers and directors has agreed to similar lock-up restrictions for a period of 15 days following the closing date of this offering. The Placement Agent may, in its sole discretion and without notice, waive the terms of any of these lock-up provisions.

Determination of Offering Price

The public offering price per share and per pre-funded warrant that we are offering and the exercise prices and other terms of the pre-funded warrants were negotiated between us and the Purchasers, in consultation with the Placement Agent, based on the trading of our common stock prior to this offering, among other things. Other factors considered in determining the public offering prices of the securities we are offering and the exercise prices and other terms of the pre-funded warrants include the history and prospects of our Company, the stage of development of our business,

our business plans for the future and the extent to which they have been implemented, an assessment of our management, general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

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 sale of our securities offered hereby by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. The Placement Agent will be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of our securities by the Placement Agent. Under these rules and regulations, the Placement Agent may not (i) engage in any stabilization activity in connection with our securities; and (ii) 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 they have completed their participation in the distribution.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti Trust Company (Equiniti Group), located at 1110 Center Pointe Curve, Suite 101, Mendota Heights, Minnesota 55120-4100.

Listing

Our shares of common stock are listed on The Nasdaq Capital Market under the trading symbol “TCRT.” We do not intend to list the pre-funded warrants on any securities exchange or other trading market.

Indemnification

We have agreed to indemnify the Placement Agent against certain liabilities, including certain liabilities arising under the Securities Act and liabilities arising from breaches of representations and warranties contained in our Placement Agency Agreement with the Placement Agent. We have also agreed to contribute to payments that the Placement Agent may be required to make for these liabilities.

In addition, we will indemnify the Purchasers against liabilities arising out of or relating to (i) any breach of any of the representations, warranties, covenants or agreements made by us in the securities purchase agreements or related documents or (ii) any action instituted against a Purchaser by a third party (other than a third party who is affiliated with such Purchaser) with respect to the securities purchase agreements or related documents and the transactions contemplated thereby, subject to certain exceptions.

Other Relationships

The Placement Agent and its affiliates may in the future engage in investment banking transactions and other commercial dealings in the ordinary course of business with us or our affiliates. The Placement Agent may in the future receive customary fees and commissions for these transactions. However, except as disclosed in this prospectus supplement or in our SEC filings, we have no present arrangements with the Placement Agent for any further services.

Electronic Distribution

A prospectus in electronic format may be made available on a website maintained by the Placement Agent and the Placement Agent may distribute prospectuses electronically. Other than the prospectus in electronic format, the information on these websites is not part of this prospectus supplement or the registration statement of which this prospectus supplement forms a part, has not been approved and/or endorsed by us or the Placement Agent and should not be relied upon by investors.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Sichenzia Ross Ference Carmel LLP, New York, New York. ArentFox Schiff LLP, Washington, D.C. is counsel to the Placement Agent in connection with this offering.

EXPERTS

The financial statements of Alaunos Therapeutics, Inc. as of and for the years ended December 31, 2025 and 2024, incorporated in this prospectus by reference from our Annual Report on Form 10-K for the year ended December 31, 2025, have been audited by Cherry Bekaert LLP, an independent registered public accounting firm, as set forth in their report thereon (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the entity's ability to continue as a going concern), and have been incorporated in this prospectus and registration statement in reliance upon the report of such firm given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, proxy statements, and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov.

Copies of certain information filed by us with the SEC are also available on our website at www.alaunos.com. We may use our investor relations website to post important information for investors, including press releases, public conference calls and webcasts, and other information, and as a means of disclosing material non-public information and for complying with our disclosure obligations under Regulation FD. Accordingly, investors should monitor our investor relations website, in addition to following filings with the SEC. The contents on our website are not part of this prospectus supplement or the accompanying prospectus, and the reference to our website does not constitute incorporation by reference into this prospectus supplement or the accompanying prospectus of the information contained at our website.

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 we filed with the SEC. This prospectus supplement and the accompanying prospectus omit some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our securities. Statements in this prospectus supplement concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements. You can obtain a copy of the registration statement from the SEC's website.

If you make a request for such information in writing or by telephone, we will provide you, without charge, a copy of any or all of the information incorporated by reference into this prospectus supplement. Any such request should be directed to:

Alaunos Therapeutics, Inc.
501 E. Las Olas Blvd., Suite 300
Fort Lauderdale, Florida 33301
(346) 355-4099

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" certain information into this prospectus supplement, which means that we can disclose important information about us by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus supplement. Because we are incorporating by reference future filings with the SEC, this prospectus supplement is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus

supplement. This means that you must carefully review all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus supplement or in any document previously incorporated by reference have been modified or superseded. However, we undertake no obligation to update or revise any statements we make, except as required by law.

- our Annual Report on [Form 10-K](#) for fiscal year ended December 31, 2025, filed with the SEC on March 31, 2026, and Amendment No. 1 to our Annual Report on [Form 10-K/A](#) for fiscal year ended December 31, 2025, filed with the SEC on April 30, 2026;
- our Quarterly Reports on [Form 10-Q](#) for fiscal quarters ended March 31, 2026, filed with the SEC on May 15, 2026, and June 30, 2026, filed with the SEC on August 14, 2026;
- our Current Reports on Form 8-K filed with the SEC on [April 15, 2026](#), [May 18, 2026](#), [May 26, 2026](#), [June 29, 2026](#), and [September 17, 2026](#), to the extent the information in such reports is filed and not furnished;
- our Registration Statement on [Form S-8](#), filed with the SEC on July 6, 2026;
- the description of our securities set forth in [Exhibit 4.7](#) to our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2021, which was filed with the SEC on March 30, 2022, including any amendments or reports filed for the purposes of updating such description.

We also incorporate by reference into this prospectus supplement all reports and documents that we may file with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act after the date of this prospectus supplement but prior to the termination of the offering of the common stock hereunder, but excluding any information deemed furnished and not filed with the SEC, and such reports and documents are an important part of this prospectus supplement.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge, upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus supplement but not delivered with the prospectus supplement, including exhibits that are specifically incorporated by reference into such documents. You may request a copy of such documents at no cost, by writing or telephoning us at the following address or telephone number:

Alaunos Therapeutics, Inc.
501 E. Las Olas Blvd., Suite 300
Fort Lauderdale, Florida 33301
(346) 355-4099



ALAUNOS THERAPEUTICS, INC.

\$50,000,000 Common Stock

Preferred Stock

Debt Securities

Warrants

**Up to 217,390 Shares of Common Stock Issuable Upon Conversion of Series A-1
Convertible Preferred Stock**

**Up to 227,170 Shares of Common Stock Issuable Upon Conversion of Series A-2
Convertible Preferred Stock**

We may offer and sell up to \$50,000,000 of the securities described in this prospectus from time to time in one or more transactions. This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide the specific terms of these securities in supplements to this prospectus. The prospectus supplements will also describe the specific manner in which these securities will be offered and may also supplement, update, or amend information contained in this prospectus. You should read this prospectus and any applicable prospectus supplement, as well as the documents incorporated or deemed to be incorporated by reference herein or therein, before you invest. We may offer these securities in amounts, at prices, and on terms determined at the time of offering.

This prospectus also relates to the sale from time to time, by the selling stockholders named herein (each, a "*Selling Stockholder*," and collectively, the "*Selling Stockholders*"), at prices and on terms that will be determined at the time of any such offering, of (1) up to 217,390 shares of our common stock issuable upon conversion of the 500 shares of our Series A-1 Convertible Preferred Stock, par value \$0.001 per share (the "*Series A-1 Preferred Stock*", and such shares of common stock upon conversion, the "*Series A-1 Conversion Shares*"), issued pursuant to the terms of the Subscription Agreement, dated April 11, 2025 (the "*Series A-1 Subscription Agreement*") to Water Mill Asset Management ("*Water Mill*"), and (2) up to 227,170 shares of our common stock issuable upon conversion of the 850 shares of our Series A-2 Convertible Preferred Stock, par value \$0.001 per share (the "*Series A-2 Preferred Stock*", and such shares of common stock upon conversion, the "*Series A-2 Conversion Shares*", and together with the Series A-1 Conversion Shares, the "*Conversion Shares*"), issued pursuant to the terms of the Subscription Agreement, dated June 24, 2025 (the "*Series A-2 Subscription Agreement*", and together with the Series A-1 Subscription Agreement, the "*Subscription Agreements*") to subscribers set forth on Appendix A thereto (collectively, the "*Buyers*").

The Series A-1 Preferred Stock were issued and sold to the Buyers in a private offering pursuant to the Series A-1 Subscription Agreement. See "*Series A-1 Preferred Stock*" for a description of the Series A-1 Subscription Agreement and terms of the Series A-1 Preferred Stock. We are registering the offer and sale of the Series A-1 Conversion Shares to satisfy the registration rights granted to Water Mill pursuant to the Series A-1 Subscription Agreement. Water Mill and any underwriters, brokers, dealers or agents that participate in such distribution may be deemed to be "underwriters" within the meaning of the Securities Act.

The Series A-2 Preferred Stock were issued and sold to the Buyers in a private offering pursuant to the Series A-2 Subscription Agreement. See “*Series A-2 Preferred Stock*” for a description of the Series A-2 Subscription Agreement and terms of the Series A-2 Preferred Stock. We are registering the offer and sale of the Series A-2 Conversion Shares to satisfy the registration rights granted to the Buyers pursuant to the Series A-2 Subscription Agreement. The Buyers and any underwriters, brokers, dealers or agents that participate in such distribution may be deemed to be “underwriters” within the meaning of the Securities Act.

We will not receive any of the proceeds from the sale of our common stock by the Selling Stockholders. The Selling Stockholders may sell the shares of our common stock described in this prospectus in a number of different ways and at varying prices. See “*Plan of Distribution*.”

Our common stock is listed on The Nasdaq Capital Market under the symbol “TCRT.” On November 3, 2025, the last reported sale price of our common stock on The Nasdaq Capital Market was \$2.71 per share.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “[Risk Factors](#)” beginning on page 11 of this prospectus, and under similar headings in any prospectus supplement or amendment or in any other documents incorporated by reference herein or therein.

Neither the Securities and Exchange Commission (the “SEC”) 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 date of this prospectus is November 7, 2025.

ALAUNOS THERAPEUTICS, INC.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”) using a “shelf” registration process for the delayed offering and sale of securities pursuant to Rule 415 under the Securities Act of 1933, as amended (the “Securities Act”). Under this shelf process, we may offer and sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$50,000,000. The Selling Stockholders may, from time to time, offer and sell shares of our common stock described in this prospectus in one or more offerings. Specific information about the terms of an offering will be included in a prospectus or a prospectus supplement relating to each offering of securities. That prospectus supplement may include a discussion of any risk factors or other special considerations that apply to those securities. The prospectus supplement may also add, update, or change information included in this prospectus.

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 herein 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 or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained in this prospectus, in any accompanying prospectus supplement or any related free writing prospectus, or incorporated by reference herein or therein. Neither we nor the Selling Stockholders have authorized anyone to provide you with information that is different. The information contained in this prospectus and any accompanying prospectus supplement and any related free writing prospectus, if any, is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus, any applicable prospectus supplement, or any related free writing prospectus, if any, or of any sale of our securities. It is important for you to read and consider all information contained in this prospectus and any accompanying prospectus supplement and any related free writing prospectus, including the documents incorporated by reference herein or therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled “*Where You Can Find More Information*” and “*Incorporation of Certain Information by Reference*” in this prospectus.

The industry and market data and other statistical information contained in this prospectus, the accompanying prospectus and the documents we incorporate by reference are based on management’s estimates, independent publications, government publications, reports by market research firms or other published independent sources, and, in each case, are believed by management to be reasonable estimates. Although we believe these sources are reliable, we have not independently verified the information. None of the independent industry publications used in this prospectus, any accompanying prospectus or the documents we incorporate by reference were prepared on our or our affiliates’ behalf and none of the sources cited by us consented to the inclusion of any data from its reports, nor have we sought their consent.

We and the Selling Stockholders are offering to sell, and seeking offers to buy, our securities only in jurisdictions in which offers and sales are permitted. The distribution of this prospectus and any accompanying prospectus supplement and the offering of our securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus and any accompanying prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of our securities and the distribution of this prospectus and any accompanying prospectus supplement outside the United States. This prospectus and any accompanying prospectus supplement and any related free writing prospectus, if any, 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 other than the registered securities to which they relate, nor do this prospectus and any accompanying prospectus supplement and any related free writing prospectus, if any, constitute an offer to sell, or a solicitation

of an offer to buy, securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

All references in this prospectus to our financial statements include, unless the context indicates otherwise, the related notes.

PROSPECTUS SUMMARY

This prospectus summary does not contain all of the information that you should consider before investing in our securities. You should read this entire prospectus and the registration statement of which this prospectus is a part carefully, including the financial statements and other information incorporated by reference in this prospectus, before making an investment decision. In addition, please read the “Risk Factors” section of this prospectus beginning on page 11 and the risk factors contained in our Annual Report. Some of the statements in this prospectus and the information incorporated by reference constitute forward-looking statements. For additional information, refer to the section entitled “Cautionary Note Regarding Forward-Looking Statements.”

Unless the context requires otherwise, the words “we,” “us,” “our,” the “Company,” and “Alaunos” refer to Alaunos Therapeutics, Inc., a Delaware corporation.

Company Overview

On October 10, 2024, we announced our continued progress and evaluation of our internally developed small molecule oral obesity program. The aim of this program is to develop a drug for obesity with a differentiated profile relative to currently marketed and in development oral and injectable products.

We have also operated as a clinical-stage oncology-focused cell therapy company developing adoptive TCR-T cell therapy, designed to treat multiple solid tumor types in large cancer patient populations with unmet clinical needs. On August 14, 2023, we announced a strategic reprioritization of our business and wind down of our TCR-T Library Phase 1/2 Trial.

In connection with the reprioritization, we reduced our workforce during the third and fourth quarters of 2023, and we continue working to reduce costs in order to extend our cash runway. We continue to explore strategic alternatives, including, but not limited to, an acquisition, merger, reverse merger, sale of assets, strategic partnerships, capital raises or other transactions.

We have not generated any product revenue and have incurred significant net losses in each year since our inception. For the six months ended June 30, 2025, we had a net loss of \$2.1 million, and as of June 30, 2025, we have incurred approximately \$922.6 million of accumulated deficit since our inception in 2003. We expect to continue to incur significant operating expenditures and net losses for the foreseeable future.

Small Molecule Oral Obesity Program

We are advancing our internally developed, preclinical small molecule program for the treatment of obesity and related metabolic disorders. This program focuses on discovering and developing novel, orally administered therapeutics with the potential for a differentiated and complementary profile compared to currently available therapies. While other pipeline therapies for obesity explore alternative hormonal pathways such as amylin or dual GIP/GLP-1 receptor agonism, our approach is focused on a non-hormonal mechanism of action. The program seeks to develop an oral therapeutic with the potential to address certain limitations of existing hormonal therapies, including the potential for preservation of lean muscle mass during weight loss and an improved tolerability profile.

During the fourth quarter of 2024, we engaged a contract development and manufacturing organization (CDMO) to synthesize active pharmaceutical ingredients (APIs) for our product candidates. We have since initiated a portfolio of preclinical studies to evaluate these product candidates. Initial in vitro characterization studies conducted by a contract research organization (CRO) encountered methodological issues related to the assay, which prevented the generation of conclusive data. This CRO has since completed the necessary method development to resolve these issues, and these studies are being repeated. In parallel, we have conducted an in vivo pharmacokinetic (PK) study of our product candidate ALN1003 and have initiated a pilot in vivo proof-of-concept (PoC) study of ALN1003 in a diet-induced obesity (DIO) mouse model.

Collectively, these ongoing studies are designed to assess our candidates' effects on key biological pathways implicated in metabolic disease, including receptor binding, lipid accumulation, food consumption, weight loss, and the expression of genes related to thermogenesis and energy expenditure. We anticipate initial data from these ongoing in vitro and in vivo studies will be available no later than the fourth quarter of 2025. These data are intended to inform the future development strategy for our product candidates and guide indication selection.

The advancement of this program is subject to numerous risks and uncertainties inherent in early-stage drug development. Subject to favorable data from these preclinical studies and our ability to secure additional capital, we plan to advance a selected development candidate into formal investigational new drug (IND)-enabling studies. We intend to actively explore strategic financing and collaboration opportunities to fund the continued development of this program.

Obesity Market

Obesity remains one of the most pressing public health challenges globally, with rates continuing to rise across many regions, particularly in the United States, Europe, and parts of Asia. It is closely linked to a range of comorbid conditions, including type 2 diabetes, cardiovascular diseases, and certain cancers, which exacerbates the overall healthcare burden. The obesity market is seeing increased attention, driven by growing awareness, better treatment options, and emerging scientific breakthroughs.

The global obesity market is experiencing rapid growth. Globally, the market size for branded obesity drugs was \$6 billion in 2023 and is estimated that it will reach \$105.0 billion by 2030. This growth is fueled by the rising obesity prevalence, evolving patient demographics, and increasing demand for effective weight-management solutions. The shift toward more personalized treatments and the need for long-term weight management are key drivers of this growth.

The current treatment landscape for obesity consists of a combination of lifestyle interventions, pharmaceuticals, and surgical options. Lifestyle interventions—dietary changes and physical activity—are the first-line treatment for most individuals, but many struggle to achieve and maintain significant weight loss through these methods alone.

Traditional weight-loss medications (e.g., OrlistatTM) are still used, though their side effects and modest results have limited their appeal. Newer drugs, like GLP-1 receptor agonists (e.g., OzempicTM, WegovyTM), are quickly becoming the gold standard in the market. These drugs, which mimic the action of gut hormones to promote satiety and reduce appetite, have shown remarkable efficacy in clinical trials and are significantly improving patient outcomes.

The success of GLP-1s has led to a surge in interest from both pharmaceutical companies and patients. However, issues such as high cost, insurance reimbursement, and potential long-term side effects remain areas of concern.

The future of the obesity market is promising, with new therapies, enhanced patient targeting, and continued scientific breakthroughs on the horizon. As the global obesity epidemic continues to grow, demand for more effective and affordable treatments will likely continue to rise. However, success will depend on overcoming challenges related to cost, access, and patient adherence. Advancements in personalized medicine, non-invasive treatments, and innovative drug mechanisms will shape the next phase of the obesity treatment landscape.

The obesity market today is vibrant and expanding, but still in need of accessible, scalable, and sustainable solutions to effectively manage this complex and widespread health issue.

Historical Development and Achievements in Cancer Therapeutics

We previously focused on developing TCR-T cell therapies for solid tumors using our non-viral Sleeping Beauty platform and hunTR® TCR discovery platform. Key milestones included:

- TCR-T Library Phase 1/2 Trial (2022-2023): Treated eight patients with solid tumors (e.g., pancreatic, colorectal, lung). The trial showed TCR-T cells were well-tolerated, with no dose-limiting toxicities or neurotoxicity. Cytokine release syndrome (grades 1-3) resolved with standard care. One non-small cell lung cancer patient achieved a partial response (13% response rate), and six others had stable disease (87% disease control rate), establishing proof-of-concept that Sleeping Beauty TCR-T cells can result in objective clinical responses and recognize established tumors *in vivo*.
- hunTR® Platform: Identified proprietary TCRs targeting driver mutations (KRAS, TP53, others) and various HLAs, expanding the TCR library for potential patient treatment.

In August 2023, however, due to substantial development costs and a challenging financing environment, we announced a strategic reprioritization, including the wind-down of our TCR-T Library Phase 1/2 Trial and cessation of further clinical development of TCR-T programs. This involved:

- Workforce reductions (approximately 95% by the end of 2023) and cost-cutting measures to extend cash runway.
- Termination of key licenses and agreements:
 - NCI patent license (effective December 26, 2023), after internally developing proprietary TCRs via hunTR targeting similar mutations.
 - NCI CRADA (effective October 13, 2023).
 - Precigen exclusive license (fully terminated October 4, 2024, following an amendment in April 2023 that eliminated royalty/milestone obligations).
- Trial close-out activities, including internal processes, with ongoing costs for long-term follow-up and regulatory obligations.

As a result, research and development expenses related to cancer programs have significantly declined, from \$11.7 million for the six months ended June 30, 2023, to \$0.3 million for the same period in 2025, reflecting the shift away from active oncology development.

We are actively exploring strategic alternatives to maximize stockholder value, including but not limited to acquisitions, mergers, reverse mergers, asset sales, strategic partnerships, or capital raises. These may involve monetizing cancer-related assets, such as out-licensing the TCR library or hunTR platform. We have engaged Cantor Fitzgerald & Co. as a strategic advisor for this process. However, there are no assurances that any transaction will be consummated, and failure to do so could lead to further operational curtailment or dissolution. Our primary focus has shifted to our preclinical small-molecule obesity and metabolic disorder program, with ongoing preclinical *in vitro* and *in vivo* studies.

Selected Risks Related to our Business

Our business is subject to numerous risks, including risks that may prevent us from achieving our business objectives or may adversely affect our business, financial condition, results of operations, cash flows and prospects that you should consider before making an investment decision. Some of the more significant risks and uncertainties relating to an investment in our company are listed below. These risks are more fully described in the section titled “*Risk Factors*” in this prospectus and in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2024, and in Part II, Item 1A of our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2025 and June 30, 2025, which are incorporated by reference into this prospectus.

Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations. You should be able to bear a complete loss of your investment.

- Our strategic reprioritization may not be successful, may not yield the desired results and we may be unsuccessful in identifying and implementing any strategic transaction.
- If a strategic transaction is not consummated, our board of directors (“Board”) may decide to pursue a dissolution and liquidation. In such an event, the amount of cash available for distribution to our stockholders will depend heavily on the timing of such liquidation as well as the amount of cash that will need to be reserved for commitments and contingent liabilities.
- We may require substantial additional financial resources to continue as a going concern, including through the strategic review process, and if we raise additional funds it may affect the value of your investment in our common stock.
- Our ability to consummate a strategic transaction depends on our ability to retain our current employees and consultants.
- Our stock price has been, and may continue to be, volatile.
- Our decreasing cash reserves has resulted in our shareholder equity falling below \$2,500,000 as required by Nasdaq Listing Rule 5550(b)(1), which resulted in our receipt of a delisting notice from Nasdaq in April of 2025. While we have reestablished compliance with the listing rule based on our Quarterly Report on Form 10-Q for the period ended June 30, 2025, evidencing stockholders’ equity of \$3.66 million, we remain at risk of future non-compliance if our cash reserves continue to decline or if we face unexpected financial challenges, which could lead to further delisting actions by Nasdaq.
- We have identified a material weakness and failed to maintain an effective internal control environment, which may result in material misstatements of our financial statements or have a material adverse effect on our business or stock price.
- Our small molecule obesity program is early stage and may encounter issues with manufacturing of the active pharmaceutical ingredient(s) or with the in vitro or in vivo studies that could preclude clinical trials or be costly to address with respect to time or money.
- For our small molecule oral obesity program or should we resume development of our TCR-T product candidates, any candidate for which we obtain marketing approval could be subject to post-marketing restrictions or withdrawal from the market and we may be subject to significant penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, when and if any of them are approved.
- For our small molecule oral obesity program, or should we resume development of our TCR-T product candidates, if we fail to obtain the necessary U.S. or worldwide regulatory approvals to commercialize any product candidate, our business will suffer materially.
- We may not be able to commercialize, generate significant revenues from, or attain profitability from our small molecule oral obesity program or, should we resume development of, our TCR-T product candidates.
- The termination of our TCR-T related licenses and research and development agreements could limit our ability to resume our TCR-T clinical trial or begin new clinical trials.
- We may become involved in litigation, including securities class action litigation, that could divert management’s attention and harm our business, and insurance coverage may not be sufficient to cover all costs and damages.
- Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label or result in significant negative consequences following any potential marketing approval.

- The gene transfer vectors from the Sleeping Beauty system used to manufacture our TCR-T product candidates may incorrectly modify the genetic material of a patient's T cells, potentially triggering the development of a new cancer or other adverse events.
- If we are unable either to create sales, marketing and distribution capabilities or enter into agreements with third parties to perform these functions, we will be unable to commercialize our product candidates successfully.
- If physicians and patients do not accept and use our product candidates, once approved, or if we do not obtain coverage and adequate reimbursement from payors, our ability to generate revenue from sales of our products will be materially and adversely impaired.
- Our small molecule and immuno-oncology product candidates may face competition in the future from generics or biosimilars and/or new technologies and our pending patent applications may not be granted, further limiting our ability to compete with other companies.
- If we fail to adequately protect or enforce our intellectual property rights or secure rights to patents of others, the value of our intellectual property rights would diminish and our ability to successfully commercialize our products may be materially impaired.
- Third-party claims of intellectual property infringement would require us to spend significant time and money and could prevent us from developing or commercializing our products.
- We have and will rely significantly on information technology and any failure, inadequacy, interruption or security lapse of that technology or loss of data, including any cybersecurity incidents, could compromise sensitive information related to our business, prevent us from accessing critical information or expose us to liability which could harm our ability to operate our business effectively and materially and adversely affect our business and reputation.
- Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us, which may be beneficial to our stockholders, more difficult.
- Our amended and restated bylaws provide that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.
- Because we do not expect to pay dividends, you will not realize any income from an investment in our common stock unless and until you sell your shares at a profit.
- Our ability to use net operating loss carryforwards and research tax credits to reduce future tax payments may be limited or restricted.
- The exercise of outstanding warrants, and issuance of equity awards may have a dilutive effect on our stock, and negatively and materially impact the price of our common stock.
- Our principal stockholders, executive officers and directors have substantial control over the Company, which may prevent you and other stockholders from influencing significant corporate decisions and may significantly harm the market price of our common stock.
- We are a "smaller reporting company," and the reduced disclosure requirements applicable to smaller reporting companies may make our common stock less attractive to investors.
- other risks described from time to time in periodic and current reports that we file with the SEC.

Series A-1 Preferred Stock

On April 11, 2025, the Company entered into a Subscription Agreement (the "*Series A-1 Subscription Agreement*"), by and among the Company and Water Mill Asset Management ("*Water Mill*"), pursuant to which

the Company agreed to issue and sell, in a private offering to Water Mill, shares of the Series A-1 Convertible Preferred Stock, par value \$0.001 per share, of the Company (the “*Series A-1 Preferred Stock*”), at a price per share of \$1,000 (the “*Series A-1 Preferred Offering*”) for an aggregate purchase price of \$500,000. The Series A-1 Preferred Offering also relates to the offering of the shares of the common stock issuable upon the conversion of or otherwise pursuant to the terms of the Series A-1 Preferred Stock (such shares of common stock, the “*Series A-1 Conversion Shares*”). The Series A-1 Preferred Offering closed on April 11, 2025.

Under the terms of the Certificate of Designation of Series A-1 Convertible Preferred Stock (the “*Series A-1 Certificate of Designation*”) filed by the Company with the Secretary of State of the State of Delaware on April 11, 2025, each share of Series A-1 Preferred Stock has a stated value of \$1,000 per share and, when issued, the Series A-1 Preferred Stock will be fully paid and non-assessable. The holders of Series A-1 Preferred Stock will be entitled to receive dividends at a rate of 10% per annum, payable in shares of Series A-1 Preferred Stock. In addition, the holders of Series A-1 Preferred Stock, to the extent any other dividends or distributions are declared for holders of the common stock, the holders of Series A-1 Preferred Stock will be entitled to participate in such dividends or distributions on an as-converted basis. The holders of Series A-1 Preferred Stock are entitled to vote alongside holders of common stock on an as-converted basis on a 1:1 ratio as common stock, voting together as a single class, with respect to any and all matters presented to the stockholders of the Company for their action; provided, however, that, except as otherwise required by law, holders of common stock, as such, shall not be entitled to vote on any amendment to the Series A-1 Certificate of Designation. In any such vote, each holder of Series A-1 Preferred Stock shall be entitled to a number of votes equal to the number of shares of common stock into which such holder’s shares of Series A-1 Preferred Stock are convertible pursuant to the Series A-1 Certificate of Designation as of the record date of such vote or written consent (or as otherwise required by applicable law).

Each holder of Series A-1 Preferred Stock has the right to convert all or any portion of the outstanding Series A-1 Preferred Stock held by such holder along with the aggregate accrued or accumulated and unpaid dividends thereon, at any time at such holder’s option, into shares of common stock in accordance with the terms of the Series A-1 Certificate of Designation. The initial fixed conversion price shall be \$2.76 per share for Series A-1 Preferred Stock, subject to proportional adjustments in accordance with the Series A-1 Certificate of Designation.

Series A-2 Preferred Stock

On June 24, 2025, the Company entered into a Subscription Agreement (the “*Series A-2 Subscription Agreement*”, and together with the Series A-2 Subscription Agreement, the “*Subscription Agreement*”), by and among the Company and subscribers set forth on Appendix A thereto (the “*Buyers*”), pursuant to which the Company agreed to issue and sell, in a private offering to the Buyers, shares of the Series A-2 Convertible Preferred Stock, par value \$0.001 per share, of the Company (the “*Series A-2 Preferred Stock*”), at a price per share of \$1,000 (the “*Series A-2 Preferred Offering*”) for an aggregate purchase price of \$850,000. The Series A-2 Preferred Offering also relates to the offering of the shares of the common stock issuable upon the conversion of or otherwise pursuant to the terms of the Series A-2 Preferred Stock (such shares of common stock, the “*Series A-2 Conversion Shares*”). The Series A-2 Preferred Offering closed on June 24, 2025.

Under the terms of the Certificate of Designation of Series A-2 Convertible Preferred Stock (the “*Series A-2 Certificate of Designation*”) filed by the Company with the Secretary of State of the State of Delaware on June 24, 2025, each share of Series A-2 Preferred Stock has a stated value of \$1,000 per share and, when issued, the Series A-2 Preferred Stock will be fully paid and non-assessable. The holders of Series A-2 Preferred Stock will be entitled to receive dividends at a rate of 10% per annum, payable in shares of Series A-2 Preferred Stock. In addition, the holders of Series A-2 Preferred Stock, to the extent any other dividends or distributions are declared for holders of the common stock, the holders of Series A-2 Preferred Stock will be entitled to participate in such dividends or distributions on an as-converted basis. The holders of Series A-2 Preferred Stock are entitled to vote alongside holders of common stock on an as-converted basis on a 1:1 ratio as common stock, voting together as a single class, with respect to any and all matters presented to the stockholders of the Company for

their action; provided, however, that, except as otherwise required by law, holders of common stock, as such, shall not be entitled to vote on any amendment to the Series A-2 Certificate of Designation. In any such vote, each holder of Series A-2 Preferred Stock shall be entitled to a number of votes equal to the number of shares of common stock into which such holder's shares of Series A-2 Preferred Stock are convertible pursuant to the Series A-2 Certificate of Designation as of the record date of such vote or written consent (or as otherwise required by applicable law).

Each holder of Series A-2 Preferred Stock has the right to convert all or any portion of the outstanding Series A-2 Preferred Stock held by such holder along with the aggregate accrued or accumulated and unpaid dividends thereon, at any time at such holder's option, into shares of common stock in accordance with the terms of the Series A-2 Certificate of Designation. The initial fixed conversion price shall be \$4.49 per share for Series A-2 Preferred Stock, subject to proportional adjustments in accordance with the Series A-2 Certificate of Designation.

Corporate Information

We originally incorporated in Colorado in September 1998 (under the name Net Escapes, Inc.) and later changed our name to "EasyWeb, Inc." in February 1999. We re-incorporated in Delaware on May 16, 2005 under the same name. On September 13, 2005, we completed a "reverse" acquisition of privately held Ziopharm, Inc., a Delaware corporation. To effect this transaction, we caused ZIO Acquisition Corp., our wholly-owned subsidiary, to merge with and into Ziopharm, Inc., with Ziopharm, Inc. surviving as our wholly owned subsidiary. Following the merger, we caused Ziopharm, Inc. to merge with and into us and we changed our name to "Ziopharm Oncology, Inc." As a result, Ziopharm, Inc. became the registrant with the Securities and Exchange Commission, or the SEC, and the historical financial statements of Ziopharm, Inc. became our historical financial statements. On January 25, 2022, we filed a Certificate of Amendment to our Amended and Restated Certificate of Incorporation with the Delaware Secretary of State to change our name to Alaunos Therapeutics, Inc.

Our principal executive offices are located at 501 E. Las Olas Blvd., Suite 300, Fort Lauderdale, FL 33301, and our telephone number is (346) 355-4099.

Our corporate website address is www.alaunos.com. We make available on or through our website our periodic reports that we file with the SEC. Information contained in, or accessible through, our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only. The contents of our website are not incorporated by reference into this document and shall not be deemed "filed" under the Securities Exchange Act of 1934, as amended (the "*Exchange Act*").

THE OFFERING

Securities offered by the Selling Stockholders

We may offer from time to time shares of our common stock, preferred stock, debt securities and warrants. We will offer securities in amounts, at prices, and on terms to be determined at the time of the offering. The aggregate initial offering price of the securities sold by us under this prospectus will not exceed \$50,000,000 (the “*Primary Offering*”).

The Selling Stockholders may offer, sell or distribute from time to time up to 444,560 shares of common stock consisting of:

- Up to 217,390 Series A-1 Conversion Shares issuable upon the conversion of or otherwise pursuant to the terms of the Series A-1 Preferred Stock
- Up to 227,170 Series A-2 Conversion Shares issuable upon the conversion of or otherwise pursuant to the terms of the Series A-2 Preferred Stock

Common stock to be outstanding immediately before this offering⁽¹⁾

2,321,829 shares (as of November 3, 2025)

Use of proceeds

We expect to use the net proceeds from the Primary Offering for general corporate purposes. We will not receive any proceeds from the resale of shares of common stock included in this prospectus by the Selling Securityholders. See “*Use of Proceeds*” section beginning on page 43 of this prospectus.

Risk factors

Investing in our securities is highly speculative and involves a high degree of risk. You should carefully consider the information set forth in the “*Risk Factors*” section beginning on page 11 of this prospectus, and in the documents incorporated herein and therein by reference.

Trading symbol

Our common stock is listed on The Nasdaq Capital Market under the symbol “TCRT.”

(1) Unless otherwise noted, the number of shares of our Common Stock outstanding prior to this offering is based on 2,321,829 shares of Common Stock outstanding as of November 3, 2025, excluding the following shares of common stock reserved for issuance as of that date.

- 136,327 shares of Common Stock issuable upon the exercise of outstanding warrants to purchase our Common Stock, with a weighted average exercise price of \$7.52 per share;
- 225,550 shares of Common Stock issuable upon exercise of outstanding stock options under our equity incentive plan, with a weighted average exercise price of \$25.09 per share;
- 217,390 shares of Common Stock issuable upon the conversion of the Company’s Series A-1 Convertible Preferred Stock;
- 227,170 shares of Common Stock issuable upon the conversion of the Company’s Series A-2 Convertible Preferred Stock.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding Series A-1 and Series A-2 Convertible Preferred Stock, stock options or warrants described above.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to purchase any of our securities, you should carefully consider the risks and uncertainties described below, in the section titled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2024 (the “2024 Annual Report”) in our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2025 and June 30, 2025 (the “Quarterly Reports on Form 10-Q”), and in other documents that we subsequently file with the SEC that update, supersede or supplement such information, which are incorporated by reference into this prospectus, in any prospectus supplement to this prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occur, our business, financial condition and results of operations could be materially and adversely affected and we may not be able to achieve our goals, the value of our securities could decline and you could lose some or all of your investment. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations. If any of these risks occur, the trading price of our common stock could decline materially and you could lose all or part of your investment.

Risks Related to Our common stock and this Offering

Management has broad discretion as to the use of proceeds from our sales of the Series A-1 Preferred Stock or the Series A-2 Preferred Stock pursuant to the Subscription Agreements, and may invest or spend the proceeds in ways with which you do not agree and in ways that may not increase the value of your investment.

Our management has broad discretion over the use of proceeds from the sales of the Series A-1 Preferred Stock or the Series A-2 Preferred Stock pursuant to the Subscription Agreements. You may not agree with our decisions, and our use of the proceeds may not yield any return on your investment. Our failure to effectively apply the net proceeds from such sale could compromise our ability to pursue our business strategy, and we might not be able to yield a significant return, if any, on our investment of these net proceeds. In addition, the net proceeds from such sale may not be sufficient for our anticipated uses, and we may need additional resources to progress our service offerings to the stage we expect. You will not have the opportunity to influence our decisions on how to use our net proceeds from the sales of the Series A-1 Preferred Stock or the Series A-2 Preferred Stock pursuant to the Subscription Agreements.

The sale or issuance of the securities registered for resale hereunder, or the perception that such sales may occur, could cause the price of our common stock to decrease.

We are registering for resale hereunder up to 217,390 Series A-1 Conversion Shares issuable upon the conversion of or otherwise pursuant to the terms of Series A-1 Preferred Stock and up to 227,170 Series A-2 Conversion Shares issuable upon the conversion of or otherwise pursuant to the terms of Series A-2 Preferred Stock. Accordingly, our existing stockholders may experience substantial dilution as a result of the sale of shares of common stock pursuant to this prospectus. The sale of these securities in the public market, or the perception that holders of a large number of securities intend to sell their securities, could reduce the market price of our common stock. However, the number of shares of our common stock ultimately offered for resale by the Buyers under this prospectus is dependent upon the number of shares of common stock ultimately issued to the Buyers.

We cannot predict if and when the Selling Securityholders may sell such shares of the common stock in the public markets.

In addition, the conversion price of Series A-1 Preferred Stock or Series A-2 Preferred Stock, may be below the current and/or then trading prices of shares of our common stock or below the price at which our existing shareholders purchased our common stock. The Selling Stockholders may potentially make a significant profit with the resale of the securities depending on the trading price of our securities at the time of a sale and the purchase price of such securities by them. While the Selling Stockholders may experience a positive rate of

return based on the trading price of our securities, the existing holders of our common stock may not experience a similar rate of return on the shares of common stock they purchased due to differences in the applicable purchase price and trading price.

Additionally, the sale of a substantial number of shares of our common stock by the Selling Stockholders, or the anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales.

We may issue additional equity or equity-linked securities in the future, which may result in additional dilution to you.

We expect that significant additional capital will be needed in the future to continue our planned operations. To the extent that we raise additional capital by issuing equity securities, including securities exercisable for or convertible into shares of our common stock, our existing shareholders' ownership may experience substantial dilution, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common shareholder.

Although our common stock is listed on the Nasdaq Capital Market, our shares are likely to be thinly traded for some time and an active market may never develop.

Although our common stock is listed on the Nasdaq Capital Market, it is likely that initially there will be a very limited trading market for our common stock, and we cannot ensure that a robust trading market will ever develop or be sustained. Our shares of common stock may be thinly traded, and the price, if traded, may not reflect our actual or perceived value. There can be no assurance that there will be an active market for our shares of common stock in the future. The market liquidity will be dependent on the perception of our operating business, competitive forces, state of the live stream and gaming industry, growth rate and becoming cash flow profitable on a sustainable basis, among other things. We may, in the future, take certain steps, including utilizing investor awareness campaigns, press releases, road shows, and conferences to increase awareness of our business and any steps that we might take to bring us to the awareness of investors may require we compensate financial public relations firms with cash and/or stock. There can be no assurance that there will be any awareness generated or the results of any efforts will result in any impact on our trading volume. Consequently, investors may not be able to liquidate their investment or liquidate it at a price that reflects the value of the business and trading may be at an inflated price relative to the performance of our company due to, among other things, availability of sellers of our shares. If a market should develop, the price may be highly volatile. Because there may be a low price for our shares of common stock, many brokerage firms or clearing firms may not be willing to effect transactions in the securities or accept our shares for deposit in an account. Even if an investor finds a broker willing to effect a transaction in the shares of our common stock, the combination of brokerage commissions, transfer fees, taxes, if any, and any other selling costs may exceed the selling price. Further, many lending institutions will not permit the use of low-priced shares of common stock as collateral for any loans.

We received a notice from Nasdaq that our common stock may be delisted from trading on the Nasdaq Capital Market if we fail to comply with the continued listing requirements, including the minimum bid price requirement. A delisting of our common stock is likely to reduce the liquidity of our common stock and may inhibit or preclude our ability to raise additional financing.

We are required to comply with certain Nasdaq continued listing requirements, including a minimum bid price for our common stock, as well as a series of financial tests relating to stockholder equity, market value of listed securities and number of market makers and stockholders. If we fail to maintain compliance with any of those requirements, our common stock could be delisted from Nasdaq.

Our decreasing cash reserves has resulted in our shareholder equity falling below \$2,500,000 as required by Nasdaq Listing Rule 5550(b)(1), which resulted in our receipt of a delisting notice from Nasdaq in April of 2025.

In our 2024 Annual Report, we reported stockholders' equity of \$2,063,000. While we have reestablished compliance with the listing rule based on our Quarterly Report on Form 10-Q for the period ended June 30, 2025, evidencing stockholders' equity of \$3.66 million, we remain at risk of future non-compliance if our cash reserves continue to decline or if we face unexpected financial challenges, which could lead to further delisting actions by Nasdaq.

If our common stock is delisted by Nasdaq, it could lead to a number of negative implications, including an adverse effect on the price of our common stock, deterring broker-dealers from making a market in or otherwise seeking or generating interest in our common stock, increased volatility in our common stock, reduced liquidity in our common stock, the loss of federal preemption of state securities laws and greater difficulty in obtaining financing. Delisting could also cause a loss of confidence of our customers, collaborators, vendors, suppliers and employee, which could harm our business and future prospects.

If our common stock is delisted by Nasdaq, the price of our common stock may decline, and although our common stock may be eligible to trade on the OTC Bulletin Board, another over-the-counter quotation system, or on the pink sheets, an investor may find it more difficult to dispose of their common stock or obtain accurate quotations as to the market value of our common stock. If our common stock is delisted from Nasdaq, trading in our securities may be subject to the SEC's "penny stock" rules. These "penny stock" rules will require brokers trading in our common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our common stock. The additional burdens imposed upon broker-dealers by these requirements may discourage broker-dealers from recommending transactions in our securities, which could severely limit the liquidity of our securities and consequently adversely affect the market price for our securities. Furthermore, if our common stock is delisted, we would expect it to have an adverse impact on our ability to consummate certain strategic alternatives.

Further, if our common stock is delisted, we would incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common stock and the ability of our stockholders to sell our common stock in the secondary market.

CAUTIONARY NOTES REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements that involve substantial risks and uncertainties. The forward-looking statements are contained principally in the sections of this prospectus entitled “*Prospectus Summary*” and “*Risk Factors*,” as well as in those sections of our 2024 Annual Report and Quarterly Reports on Form 10-Q entitled “*Business*,” “*Risk Factors*,” and “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*,” as applicable, but are also contained elsewhere in this prospectus. In some cases, you can identify forward-looking statements by the words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “objective,” “ongoing,” “plan,” “predict,” “project,” “potential,” “should,” “will,” or “would,” or the negative of these terms, or other comparable terminology intended to identify statements about the future. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for making each forward-looking statement contained in this prospectus, we caution you that these statements are based on a combination of facts and factors currently known by us and our expectations of the future, about which we cannot be certain. Forward-looking statements are subject to considerable risks and uncertainties, as well as other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements, including:

- our ability to successfully implement our strategic reprioritization or realize any or all of the anticipated benefits once implemented;
- our ability to raise substantial additional capital to continue as a going concern and fund our planned operations in the near term and our strategic reprioritization in the longer term;
- our ability to successfully consummate any strategic transactions, including, but not limited to, an acquisition, merger, reverse merger, sale of assets, strategic partnerships, capital raises or other transactions;
- estimates regarding our expenses, use of cash, cash runway, timing of future cash needs and anticipated capital requirements;
- our ability to license additional intellectual property to support our strategic reprioritization or out-license our intellectual property and to comply with our existing license agreements;
- our ability to enter into partnerships or strategic collaboration agreements and our ability to achieve the results and potential benefits contemplated from relationships with collaborators;
- our ability to maintain collaborations and licenses;
- our expectation of developments and projections relating to competition from other pharmaceutical and biotechnology companies or our industry;
- our plans relating to conducting future *in vitro* testing, *in vivo* efficacy studies, and non-clinical and investigational new drug or IND-enabling activities;
- the anticipated amount, timing and accounting of contract liabilities, milestones and other payments under licensing, collaboration or acquisition agreements, research and development costs and other expenses;
- our ability to remain listed on the Nasdaq Capital Market;
- our intellectual property position, including the strength and enforceability of our intellectual property rights;
- other risks and uncertainties, including those described within the section entitled “*Risk Factors*” in our 2024 Annual Report and 2025 Quarterly Reports on Form 10-Q, and subsequent Quarterly Reports on Form 10-Q, which risk factors are incorporated herein by reference.

This list of factors that may affect future performance and the accuracy of forward-looking statements is illustrative, but not exhaustive. New risk factors and uncertainties not described here or elsewhere in this prospectus, including in the section entitled “*Risk Factors*,” may emerge from time to time. Moreover, because we operate in a competitive and rapidly changing environment, it is not possible for our management to predict all risk factors and uncertainties, 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. The forward-looking statements are also subject to the risks and uncertainties specific to our Company, including but not limited to the fact that we have only a limited operating history as a public company. In light of these risks, uncertainties and assumptions, the future events and trends discussed in this prospectus may not occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance and events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assume responsibility for the accuracy and completeness of the forward-looking statements. Except as required by applicable law, including the securities laws of the United States, we do not intend and do not undertake an obligation to update any of the forward-looking statements to conform these statements to actual results.

You should read this prospectus, the accompanying prospectus and the documents incorporated herein or therein and those documents filed as exhibits to the registration statement, of which this prospectus is a part, with the understanding that our actual future results, levels of activity, performance and achievements may be materially different from what we expect.

DESCRIPTION OF CAPITAL STOCK

The following is a summary of the material terms and provisions of our common stock and preferred stock. This summary is subject to and qualified in its entirety by our Third Amended and Restated Certificate of Incorporation, as amended, or our certificate of incorporation, our Amended and Restated Bylaws, as amended, or our bylaws, the Series A-1 Certificate of Designation and the Series A-2 Certificate of Designation, copies of which are included as exhibits to the registration statement of which this prospectus forms a part, and certain provisions of Delaware law. Prospective investors should carefully review the terms and provisions of our certificate of incorporation, our Bylaws, the Series A-1 Certificate of Designation and the Series A-2 Certificate of Designation.

General

As of the date of this prospectus, our authorized capital stock consists of 80,000,000 shares, comprised of 50,000,000 shares of common stock, par value \$0.001 per share, and 30,000,000 shares of preferred stock, par value \$0.001 per share. As of November 3, 2025, there were 2,321,829 shares of common stock, 500 shares of Series A-1 Preferred Stock and 850 shares of Series A-2 Preferred Stock issued and outstanding. Our common stock is traded on the Nasdaq Capital Market under the symbol “TCRT”.

Common Stock

Voting Rights. The holders of our common stock are entitled to one vote for each outstanding share of common stock owned by such stockholder on every matter properly submitted to the stockholders for their vote. Stockholders are not entitled to vote cumulatively for the election of directors. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose. At any meeting of the stockholders, a quorum as to any matter shall consist of the holders of a majority of the votes entitled to be cast on the matter, except where a larger quorum is required by law, by our certificate of incorporation or by our bylaws.

Dividend Rights. Holders of our common stock are entitled to receive ratably dividends and other distributions of cash or any other right or property as may be declared by our Board out of our assets or funds legally available for such dividends or distributions. The dividend rights of holders of common stock are subject to the dividend rights of the holders of any series of preferred stock that may be issued and outstanding from time to time.

Liquidation Rights. In the event of any voluntary or involuntary liquidation, dissolution or winding up of our affairs, holders of our common stock would be entitled to share ratably in our assets that are legally available for distribution to stockholders after payment of liabilities. If we have any preferred stock outstanding at such time, the holders of such preferred stock may be entitled to distribution and/or liquidation preferences that require us to pay the applicable distribution to the holders of preferred stock before paying distributions to the holders of common stock.

Rights and Preferences. Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock.

The transfer agent and registrar for our common stock is Equiniti Group.

See “*Certain Provisions of Delaware Law, the Certificate of Incorporation and Bylaws*” for a description of provisions in our certificate of incorporation and bylaws which may have the effect of delaying, deferring or preventing changes in control.

Preferred Stock

Pursuant to our certificate of incorporation, our Board has the authority, without stockholder approval, subject to limitations prescribed by law, to provide for the issuance of up to 30,000,000 shares of preferred stock in one or more series, and by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each series and any qualifications, limitations or restrictions thereof, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding. We have designated 250,000 shares of our preferred stock as our Series 1 Preferred Stock, none of which are outstanding, 1,000 shares of our preferred stock as our Series A-1 Preferred Stock, 500 shares of which are outstanding, and 1,000 shares of our preferred stock as our Series A-2 Preferred Stock, 850 shares of which are outstanding.

We will fix the designations, voting powers, preferences and rights of the preferred stock of each series, as well as the qualifications, limitations or restrictions thereof, in the certificate of designation relating to that series. We will file as an exhibit 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 any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of that series of preferred stock. This description will include:

- the title and stated value;
- the number of shares offered;
- the liquidation preference per share;
- the purchase price per share;
- the dividend rate(s), period(s) and/or payment date(s) or method(s) of calculation for dividends;
- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- our right, if any, to defer payment of dividends and the maximum length of any such deferral period;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provision for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into common stock, including the conversion price (or manner of calculation) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price, or how it will be calculated, and the exchange period;
- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon the liquidation, dissolution or winding up of our affairs;

- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the class or series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

Our Board could authorize the issuance of shares of preferred stock with terms and conditions that could have the effect of discouraging a takeover or other transaction that might involve a premium price for holders of the shares or which holders might believe to be in their best interests. The issuance of preferred stock could adversely affect the voting power, conversion or other rights of holders of common stock and reduce the likelihood that common stockholders will receive dividend payments and payments upon liquidation.

The laws of the state of Delaware, the state of our incorporation, provide that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes in the rights of holders of such preferred stock. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

The transfer agent and registrar for any series of preferred stock will be set forth in the applicable prospectus supplement.

Series A-1 Preferred Stock

General

On April 11, 2025, the Company entered into the Series A-1 Subscription Agreement, by and among the Company and Water Mill, pursuant to which the Company agreed to issue and sell, in a private offering to Water Mill, shares of the Series A-1 Preferred Stock, at a price per share of \$1,000 for an aggregate purchase price of \$500,000. The Preferred Offering also relates to the offering of the Series A-1 Conversion Shares issuable upon the conversion of or otherwise pursuant to the terms of the Series A-1 Preferred Stock. The Series A-1 Preferred Offering closed on April 11, 2025.

The shares of our Series A-1 Preferred Stock, when issued or paid as a dividend, and our common stock issuable upon conversion of or otherwise pursuant to the terms of the Series A-1 Preferred Stock, will be fully paid and nonassessable. The holders of the Series A-1 Preferred Stock will have no preemptive or preferential rights to purchase or subscribe for any class of our stock, obligations, warrants or other securities.

Dividends

Holders of shares of issued and outstanding Series A-1 Preferred Stock are entitled to receive, whether or not declared by our Board and whether or not there are funds legally available for the payment of dividends, cumulative dividends accrued on a daily basis in arrears at the rate of 10% per annum per share on the sum of the Series A-1 Stated Value (as defined below) thereof plus all unpaid accrued and accumulated dividends thereon; provided, that to the extent not paid on the last day of March, June, September, and December of each calendar year (each, a “*Series A-1 Dividend Payment Date*”), all accrued dividends on any share of Series A-1 Preferred Stock shall accumulate and compound on the applicable Series A-1 Dividend Payment Date whether or not declared by the Board and shall remain accumulated, compounding dividends until paid pursuant thereto or conversion of the Series A-1 Preferred Stock. The initial stated value per share (the “*Series A-1 Stated Value*”) shall be \$1,000, subject to appropriate adjustment in the event of stock splits, stock dividends, recapitalizations, or similar transaction with respect to the Series A-1 Preferred Stock. Dividends will be payable in kind through the issuance of additional shares of Series A-1 Preferred Stock.

In addition, the holders of Series A-1 Preferred Stock, to the extent any other dividends or distributions are declared for holders of the common stock, the holders of Series A-1 Preferred Stock will be entitled to participate

in such dividends or distributions on an as-converted basis, subject to certain limitations set forth in the Series A-1 Certificate of Designation.

Liquidation

Upon any liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary, or certain deemed liquidation events, the holders of the Series A-1 Preferred Stock will be entitled to receive out of our assets, an amount equal to the aggregate Series A-1 Stated Value of all shares of Series A-1 Preferred Stock held by such holder, plus all unpaid accrued and accumulated dividends on all such shares of Series A-1 Preferred Stock (whether or not declared), before any distribution or payment shall be made to the holders of the common stock and any other class of securities that is specifically designated as junior to the Series A-1 Preferred Stock, and if the our assets shall be insufficient to pay in full such amounts, then the entire assets to be distributed to the holders of Series A-1 Preferred Stock shall be ratably distributed among the holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full.

Voting Rights

The holders of Series A-1 Preferred Stock are entitled to vote alongside holders of common stock on an as-converted basis on a 1:1 ratio as common stock, voting together as a single class, with respect to any and all matters presented to the stockholders of the Company for their action; provided, however, that, except as otherwise required by law, holders of common stock, as such, shall not be entitled to vote on any amendment to the Series A-1 Certificate of Designation. In any such vote, each holder of Series A-1 Preferred Stock shall be entitled to a number of votes equal to the number of shares of common stock into which such holder's shares of Series A-1 Preferred Stock are convertible pursuant to the Series A-1 Certificate of Designation as of the record date of such vote or written consent (or as otherwise required by applicable law).

Conversions

Subject to the provisions of the Series A-1 Certificate of Designation, the holder of Series A-1 Preferred Stock may, at its option, at any time and from time to time, convert all or any portion of outstanding shares of Series A-1 Preferred Stock then held by such holder, along with the aggregate accrued or accumulated and unpaid dividends thereon, into shares of common stock. Each share of Series A-1 Preferred Stock is convertible into such number of shares of common stock equal to (i) the sum of the Series A-1 Stated Value plus all accrued and accumulated and unpaid dividends thereon, divided by (ii) the conversion price in effect immediately prior to such conversion. The initial conversion price per share of Series A-1 Preferred Stock shall be \$2.76. The conversion price is subject to adjustment in the event of (a) payment of dividend or other distribution upon the common stock or any other capital stock of the Company payable in shares of common stock or in options or convertible securities of the Company, (b) subdivision or combination of the Company's outstanding shares of common stock, or (c) reorganization, reclassification, consolidation, or merger involving the Company.

In addition, each share of Series A-1 Preferred Stock shall automatically convert into fully paid and nonassessable shares of the common stock, at the conversion price, without any action required by the holder of the Series A-1 Preferred Stock, upon the occurrence of a Change of Control (as defined in the Series A-1 Certificate of Designation).

Limitations on Conversion

No party may convert any shares of Series A-1 Preferred Stock or otherwise issue shares on account of such shares of Series A-1 Preferred Stock if, as a result of the conversion or issuance, a holder and its affiliates would beneficially own in excess of 4.99% of the shares of our common stock. However, upon 61 days' advance notice to us, a holder may increase the limit of beneficially owned shares of our common stock from 4.99% to any amount up to 9.99% of the shares of our common stock. In the event that the issuance of shares of Common Stock to a holder upon conversion of, or otherwise on account, the shares of Series A-1 Preferred Stock results in such

holder and its affiliates being deemed to beneficially own, in the aggregate, more than the maximum percentage described in the preceding sentence of the number of outstanding shares of our Common Stock (as determined under Section 13(d) of the Exchange Act), the number of shares so issued by which the holder's and its affiliates' aggregate beneficial ownership exceeds such maximum percentage will be deemed null and void and will be cancelled ab initio, and the holder will not have the power to vote or to transfer such excess shares.

Exchange Listing

There is no established public trading market for the Series A-1 Preferred Stock, and we do not expect a market to develop. In addition, we do not intend to list the Series A-1 Preferred Stock on any securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the Series A-1 Preferred Stock will be limited.

Series A-2 Preferred Stock

General

On June 24, 2025, the Company entered into the Series A-2 Subscription Agreement, by and among the Company and the Buyers, pursuant to which the Company agreed to issue and sell, in a private offering to the Buyers, shares of the Series A-2 Preferred Stock, at a price per share of \$1,000 for an aggregate purchase price of \$850,000. The Preferred Offering also relates to the offering of the Series A-2 Conversion Shares issuable upon the conversion of or otherwise pursuant to the terms of the Series A-2 Preferred Stock. The Series A-2 Preferred Offering closed on June 24, 2025.

The shares of our Series A-2 Preferred Stock, when issued or paid as a dividend, and our common stock issuable upon conversion of or otherwise pursuant to the terms of the Series A-2 Preferred Stock, will be fully paid and nonassessable. The holders of the Series A-2 Preferred Stock will have no preemptive or preferential rights to purchase or subscribe for any class of our stock, obligations, warrants or other securities.

Dividends

Holders of shares of issued and outstanding Series A-2 Preferred Stock are entitled to receive, whether or not declared by our Board and whether or not there are funds legally available for the payment of dividends, cumulative dividends accrued on a daily basis in arrears at the rate of 10% per annum per share on the sum of the Stated Value (as defined below) thereof plus all unpaid accrued and accumulated dividends thereon; provided, that to the extent not paid on the last day of March, June, September, and December of each calendar year (each, a "*Series A-2 Dividend Payment Date*"), all accrued dividends on any share of Series A-2 Preferred Stock shall accumulate and compound on the applicable Series A-2 Dividend Payment Date whether or not declared by the Board and shall remain accumulated, compounding dividends until paid pursuant thereto or conversion of the Series A-2 Preferred Stock. The initial stated value per share (the "*Stated Value*") shall be \$1,000, subject to appropriate adjustment in the event of stock splits, stock dividends, recapitalizations, or similar transaction with respect to the Series A-2 Preferred Stock. Dividends will be payable in kind through the issuance of additional shares of Series A-2 Preferred Stock.

In addition, the holders of Series A-2 Preferred Stock, to the extent any other dividends or distributions are declared for holders of the common stock, the holders of Series A-2 Preferred Stock will be entitled to participate in such dividends or distributions on an as-converted basis, subject to certain limitations set forth in the Series A-2 Certificate of Designation.

Liquidation

Upon any liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary, or certain deemed liquidation events, the holders of the Series A-2 Preferred Stock will be entitled to receive out of our assets, an amount equal to the aggregate Series A-2 Stated Value of all shares of Series A-2 Preferred Stock held

by such holder, plus all unpaid accrued and accumulated dividends on all such shares of Series A-2 Preferred Stock (whether or not declared), before any distribution or payment shall be made to the holders of the common stock and any other class of securities that is specifically designated as junior to the Series A-2 Preferred Stock, and if the our assets shall be insufficient to pay in full such amounts, then the entire assets to be distributed to the holders of Series A-2 Preferred Stock shall be ratably distributed among the holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full.

Voting Rights

The holders of Series A-2 Preferred Stock are entitled to vote alongside holders of common stock on an as-converted basis on a 1:1 ratio as common stock, voting together as a single class, with respect to any and all matters presented to the stockholders of the Company for their action; provided, however, that, except as otherwise required by law, holders of common stock, as such, shall not be entitled to vote on any amendment to the Series A-2 Certificate of Designation. In any such vote, each holder of Series A-2 Preferred Stock shall be entitled to a number of votes equal to the number of shares of common stock into which such holder's shares of Series A-2 Preferred Stock are convertible pursuant to the Series A-2 Certificate of Designation as of the record date of such vote or written consent (or as otherwise required by applicable law).

Conversions

Subject to the provisions of the Series A-2 Certificate of Designation, the holder of Series A-2 Preferred Stock may, at its option, at any time and from time to time, convert all or any portion of outstanding shares of Series A-2 Preferred Stock then held by such holder, along with the aggregate accrued or accumulated and unpaid dividends thereon, into shares of common stock. Each share of Series A-2 Preferred Stock is convertible into such number of shares of common stock equal to (i) the sum of the Series A-2 Stated Value plus all accrued and accumulated and unpaid dividends thereon, divided by (ii) the conversion price in effect immediately prior to such conversion. The initial conversion price per share of Series A-2 Preferred Stock shall be \$4.49. The conversion price is subject to adjustment in the event of (a) payment of dividend or other distribution upon the common stock or any other capital stock of the Company payable in shares of common stock or in options or convertible securities of the Company, (b) subdivision or combination of the Company's outstanding shares of common stock, or (c) reorganization, reclassification, consolidation, or merger involving the Company.

In addition, each share of Series A-2 Preferred Stock shall automatically convert into fully paid and nonassessable shares of the common stock, at the conversion price, without any action required by the holder of the Series A-2 Preferred Stock, upon the occurrence of a Change of Control (as defined in the Series A-2 Certificate of Designation).

Exchange Listing

There is no established public trading market for the Series A-2 Preferred Stock, and we do not expect a market to develop. In addition, we do not intend to list the Series A-2 Preferred Stock on any securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the Series A-2 Preferred Stock will be limited.

DESCRIPTION OF DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under the indenture that we will enter into with the trustee named in the indenture. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. Supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indenture that contains the terms of the debt securities.

General

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any negative covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us.

We may issue the debt securities issued under the indenture as “discount securities,” which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may be issued with “original issue discount,” or OID, for U.S. federal income tax purposes because of interest payment and other characteristics or terms of the debt securities. Material U.S. federal income tax considerations applicable to debt securities issued with OID will be described in more detail in any applicable prospectus supplement.

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;
- the applicability of any guarantees;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;

- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;
- the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities; the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities; and the depository for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;
- additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;
- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;

- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to settlement upon conversion or exchange and whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indenture will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of our assets as an entirety or substantially as an entirety. However, upon any such consolidation or merger (in each case, if Alaunos is not the survivor of such transaction) or any such sale, conveyance, transfer or other disposition (other than a subsidiary of ours) the successor or acquiror must assume all of our obligations under the indenture or the debt securities, as appropriate.

Events of Default under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indenture with respect to any series of debt securities that we may issue:

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;
- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;
- if we fail to observe or perform any other covenant or agreement contained in the debt securities or the indenture, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive written notice of such failure, requiring the same to be remedied and stating that such is a notice of default thereunder, from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal

amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences if we have paid or deposited with the trustee a sum sufficient to pay all matured installments of principal and interest upon all the debt securities of that series that shall have become due otherwise than by acceleration, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indenture, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indenture or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request,
- such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indenture.

Modification of Indenture; Waiver

We and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under “*Description of Debt Securities — Consolidation, Merger or Sale*.”

- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under “*Description of Debt Securities — General*” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

In addition, under the indenture, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of any debt securities of any series;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any series of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

The indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- provide for payment;
- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any debt securities of the series;
- maintain paying agent agreements;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indenture provides that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company, or DTC, or another depository named by us and identified in the applicable prospectus supplement with respect to that series. To the extent the debt securities of a series are issued in global form and as book-entry, a description of terms relating to any book-entry securities will be set forth in the applicable prospectus supplement.

At the option of the holder, subject to the terms of the indenture and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indenture and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of less than all outstanding debt securities of the same series that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indenture at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indenture and the debt securities will be governed by and construed in accordance with the internal laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

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 that we may authorize to be distributed to you, 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 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 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 describe 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 prospectuses, 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:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, 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;
- 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;
- the manner in which the warrant agreements and warrants may be modified;

- a discussion of any material or special U.S. federal income tax considerations of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

- in the case of warrants to purchase debt securities, the right to receive payments of principal of, or premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or
- in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. The warrants may be exercised as set forth in the prospectus supplement relating to the warrants offered. Unless we otherwise specify in the applicable prospectus supplement, warrants may be exercised at any time up to the close of business on the expiration date set forth in the prospectus supplement relating to the warrants offered thereby. After the close of business on the expiration date, unexercised warrants will become void.

Upon receipt of payment and the warrant or warrant certificate, as applicable, properly completed and duly executed at the corporate trust office of the warrant agent, if any, or any other office, including ours, indicated in the prospectus supplement, we will, as soon as practicable, issue and deliver the securities purchasable upon such exercise. If less than all of the warrants (or the warrants represented by such warrant certificate) are exercised, a new warrant or a new warrant certificate, as applicable, will be issued for the remaining warrants.

Governing Law

Unless we otherwise specify in the applicable prospectus supplement, the warrants and any warrant agreements will be governed by and construed in accordance with the laws of the State of New York.

Enforceability of Rights by Holders of Warrants

Each warrant agent, if any, will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

**CERTAIN PROVISIONS OF DELAWARE LAW,
THE CERTIFICATE OF INCORPORATION AND BYLAWS**

Limitations on Directors' Liability

Our certificate of incorporation and our bylaws contain provisions indemnifying our directors and officers to the fullest extent permitted by law. In addition, as permitted by Delaware law, our certificate of incorporation provides that no director will be liable to us or our stockholders for monetary damages for breach of certain fiduciary duties as a director. The effect of this provision is to restrict our rights and the rights of our stockholders in derivative suits to recover monetary damages against a director for breach of certain fiduciary duties as a director, except that a director will be personally liable for:

- the benefits to be derived from relationships with our collaborators;
- any breach of his or her duty of loyalty to the registrant or its stockholders;
- acts or omissions not in good faith which involve intentional misconduct or a knowing violation of law;
- the payment of dividends or the redemption or purchase of stock in violation of Delaware law; or
- any transaction from which the director derived an improper personal benefit.

This provision does not affect a director's liability under the federal securities laws.

To the extent that our directors, officers and controlling persons are indemnified under the provisions contained in our certificate of incorporation, Delaware law or contractual arrangements against liabilities arising under the Securities Act, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act, and is therefore unenforceable.

Provisions that May Have an Anti-Takeover Effect

Certain provisions set forth in our certificate of incorporation, bylaws and in Delaware law, which are summarized below, are intended to enhance the likelihood of continuity and stability in the composition of our board of directors and in the policies formulated by our board of directors and to discourage certain types of transactions that may involve an actual or threatened change of control. In that regard, these provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for shares of our common stock and, as a consequence, they also may inhibit fluctuations in the market price of our common stock that could result from actual or rumored takeover attempts. Such provisions also may have the effect of preventing changes in our management.

Blank Check Preferred Stock. Our certificate of incorporation contains provisions that permit our board of directors to issue, without any further vote or action by the stockholders, up to 30,000,000 shares of preferred stock in one or more series and, with respect to each such series, to fix the number of shares constituting the series and the designation of the series, the voting powers (if any) of the shares of the series, and the preferences and relative, participating, optional and other special rights, if any, and any qualifications, limitations or restrictions, of the shares of such series. As a result, our board of directors could authorize the issuance of shares of preferred stock with terms and conditions that could have the effect of delaying, deferring or preventing a transaction or a change in control that might involve a premium price for holders of our common stock or otherwise be in their best interest.

Special Meetings of Stockholders. Our bylaws provide that special meetings of stockholders may be called only by the board of directors. Stockholders are not permitted to call a special meeting of stockholders or to require that the board of directors call such a special meeting.

Delaware Takeover Statute.

We are subject to Section 203 of the Delaware General Corporation Law, or DGCL, which regulates acquisitions of some Delaware corporations. In general, Section 203 prohibits, with some exceptions, a Delaware corporation that is a public company from engaging in any “business combination” with any “interested stockholder” for a period of three years following the date that such stockholder became an interested stockholder, unless:

- prior to such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- on consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned (x) by persons who are directors and also officers and (y) by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Section 203 of the DGCL defines “business combination” to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an “interested shareholder” as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with such entity or person.

SELLING STOCKHOLDERS

This prospectus relates to the possible resale from time to time (i) by Water Mill of up to 217,390 shares of our common stock issuable upon conversion of or otherwise pursuant to the terms of our Series A-1 Preferred Stock, and (ii) by the Buyers of up to 227,170 shares of our common stock issuable upon conversion of or otherwise pursuant to the terms of our Series A-2 Preferred Stock. All such shares of common stock that are being registered under the Securities Act for resale by the Selling Stockholders in this offering are expected to be freely tradable. The resale by the Selling Stockholders of a significant number of shares of our common stock that are registered for resale in this offering at any given time, or the perception that these sales may occur, could cause the market price of our common stock to decline and to be highly volatile. We are filing the registration statement of which this prospectus forms a part to satisfy the registration rights granted to Water Mill and the Buyers pursuant to the provisions of the Subscription Agreements.

Series A-1 Preferred Stock Holder

The shares of Common Stock being offered by holder of Series A-1 Preferred Stock are those issuable to Water Mill, upon conversion of, or otherwise pursuant to, the terms of shares of our Series A-1 Preferred Stock, issued by the Company to Water Mill pursuant to the Series A-1 Subscription Agreement. Because the conversion price of the Series A-1 Preferred Stock may be adjusted, the number of shares of common stock that will actually be issued upon the conversion of or otherwise pursuant to the terms of the Series A-1 Preferred Stock cannot be ascertained at this time. In addition, under the terms of the Series A-1 Preferred Stock, a holder may not convert the Series A-1 Preferred Stock if such holder or any of its affiliates would beneficially own (to the extent that after giving effect to such conversion) a number of shares of common stock which would exceed 4.99% (which may be increased up to 9.99% upon prior notice from the holder of the Series A-1 Preferred Stock to us) of the shares of Common Stock outstanding immediately after giving effect to such conversion ("*Series A-1 Beneficial Ownership Limitation*").

Series A-2 Preferred Stock Holders

The shares of Common Stock being offered by holders of Series A-2 Preferred Stock are those issuable to the Buyers, upon conversion of, or otherwise pursuant to, the terms of shares of our Series A-2 Preferred Stock, issued by the Company to the Buyers pursuant to the Series A-2 Subscription Agreement. Because the conversion price of the Series A-2 Preferred Stock may be adjusted, the number of shares of common stock that will actually be issued upon the conversion of or otherwise pursuant to the terms of the Series A-2 Preferred Stock cannot be ascertained at this time. The Series A-2 Certificate of Designation does not contain a beneficial ownership limitation similar to Series A-1 Beneficial Ownership Limitation.

The table below presents information regarding the Selling Stockholders and the shares of common stock that it may from time to time offer for resale under this prospectus. The table is prepared based on information supplied to us by the Selling Stockholders, and reflects its holdings as of November 3, 2025. The number of shares in the column "Maximum Number of Shares of Common Stock to be Offered Pursuant to this Prospectus" represents all of the shares of common stock that the Selling Stockholders may offer for resale under this prospectus, and is comprised of shares of the common stock upon the conversion of all outstanding shares of Series A-1 Preferred Stock and Series A-2 Preferred Stock into shares of common stock pursuant to the respective Certificate of Designation. The Selling Stockholders may sell some, all or none of the shares it receives in this offering. We do not know how long the Selling Stockholders will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the Selling Stockholders regarding the sale of any of the shares.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Exchange Act, and includes shares of our common stock with respect to which the Selling Stockholders have voting and investment power.

Name of Selling Stockholder			Number of Shares of Common Stock Owned Prior to Offering				Maximum Number of Shares of Common Stock to be Offered Pursuant to this Prospectus (1)	Number of Shares of Common Stock Owned After Offering				
			Number		Percent			Number(2)		Percent(3)		
Water	Mill	Asset	71,269	(4)	3.07	%	377,746	(6)	449,015	(6)	14.51	%
Jaime Vieser			41,686	(5)	1.80	%	66,814	(7)	108,500	(7)	3.51	%

- (1) Represents all of the shares of common stock that the Selling Stockholders may offer for resale under this prospectus, and is comprised of the shares of the common stock upon the conversion of all outstanding shares of Series A-1 Preferred Stock and Series A-2 Preferred Stock into shares of common stock pursuant to the respective Certificate of Designation. The amounts set forth in this column do not reflect the application of the Beneficial Ownership Limitation, the Series A-1 Beneficial Ownership Limitation or beneficial ownership limitations contained in the Series A-1 Certificate of Designation.
- (2) Assumes the issuance and sale of all shares of our common stock being offered for resale pursuant to this prospectus.
- (3) Applicable percentage ownership is based on 3,094,131 shares of our common stock outstanding immediately following the offering, which amount includes (i) 2,321,829 shares of our common stock outstanding as of November 3, 2025; (ii) 217,390 shares of our common stock issuable upon the conversion of an aggregate of 500 shares of Series A-1 Preferred Stock issuable to Water Mill pursuant to the Series A-1 Subscription Agreement, based on its initial Series A-1 Stated Value of \$1,000 per share and the \$2.76 initial conversion price per share, and (iii) 850 shares of our common stock issuable upon the conversion of an aggregate of 227,170 shares of Series A-2 Preferred Stock issuable to the Buyers pursuant to the Series A-2 Subscription Agreement, based on its initial Series A-2 Stated Value of \$1,000 per share and the \$4.49 initial conversion price per share.
- (4) Consists of (i) 33,333 shares of common stock held by WaterMill Asset Management Corp., where Mr. Postma serves as the principal, (ii) 33,109 shares of common stock held by Mr. Postma, (ii) 24 shares of common stock held by the IRA of Mr. Postma's spouse and (iii) 4,804 shares of common stock issuable upon the exercise of options exercisable within 60 days of November 3, 2025.
- (5) Consists of (i) 21,159 shares of common stock held by Mr. Vieser, (ii) 13,503 shares of common stock held in Brushwood LLC, where Mr. Vieser serves as the manager, (iii) 2,100 shares of common stock held in Uniform Transfer to Minors Act accounts by Mr. Vieser's children and (v) 4,925 shares of common stock issuable upon the exercise of options exercisable within 60 days of November 3, 2025.
- (6) Consists of 217,390 shares of common stock issuable upon conversion of 500 shares of Series A-1 Preferred Stock issued to Water Mill on April 11, 2025 pursuant to the Series A-1 Subscription Agreement, and 160,356 shares of common stock issuable upon conversion of 600 shares of Series A-2 Preferred Stock issued to Water Mill on June 24, 2025 pursuant to the Series A-2 Subscription Agreement. The address for Water Mill Asset Management Corp. is PO Box 20, Water Mill, N.Y., 11976. Does include an aggregate of 71,269 shares of common stock beneficially owned by Mr. Postma prior to the offering. The address for Mr. Postma Vieser is c/o Alaunos Therapeutics, Inc., 501 E. Las Olas Blvd., Suite 300, Fort Lauderdale, Florida 33301. Mr. Vieser serves on our Board.
- (7) Consists of 66,814 shares of common stock issuable upon conversion of 250 shares of Series A-2 Preferred Stock issued to such Buyer on June 24, 2025 pursuant to the Subscription Agreement. Does include an aggregate of 41,686 shares of common stock beneficially owned by Mr. Vieser prior to the offering. The address for Mr. Vieser is c/o Alaunos Therapeutics, Inc., 501 E. Las Olas Blvd., Suite 300, Fort Lauderdale, Florida 33301. Mr. Vieser serves on our Board.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities offered by us under this prospectus for general corporate purposes unless otherwise indicated in the applicable prospectus supplement. General corporate purposes may include, but are not limited to, the acquisition of companies or businesses, repayment and refinancing of debt, investments in our subsidiaries, investments in existing or future projects, repurchasing or redeeming securities, working capital, and capital expenditures. We may temporarily invest the net proceeds in investment-grade, interest-bearing securities until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes or the timing of these expenditures, and the net proceeds from the sale of the securities have not been accounted for in our normal budgeting process. The amounts actually expended for these purposes may vary significantly and will depend on a number of factors, including the amount of cash we generate from future operations, the actual expenses of operating our business, and opportunities that may be or become available to us. As a result, management will retain broad discretion over the allocation of net proceeds. Additional information on the use of net proceeds we receive from the sale of securities covered by this prospectus may be set forth in the prospectus supplement relating to the specific offering.

We will not receive any proceeds in connection with the sale of any common stock offered by the Selling Stockholders. Each Selling Stockholder will pay expenses incurred by such Stockholder in connection with the sale of common stock from time to time.

PLAN OF DISTRIBUTION

Sales of Securities by the Company

We may sell the securities offered through this prospectus or any applicable prospectus supplement in any one or more of the following ways:

- directly to investors, including through a specific bidding, auction or other process;
- to investors through agents;
- directly to agents;
- to or through brokers or dealers;
- to the public through underwriting syndicates led by one or more managing underwriters for resale to investors or to the public;
- to one or more underwriters acting alone for resale to investors or to the public;
- through a block trade (which may involve crosses) in which the broker or dealer so engaged will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- in “at the market offerings,” within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;
- transactions not involving market makers or established trading markets, including direct sales or privately negotiated transactions;
- exchange distributions and/or secondary distributions;
- by delayed delivery contracts or by remarketing firms;
- transactions in options, swaps, or other derivatives that may or may not be listed on an exchange; or
- through a combination of any such methods of sale.

We reserve the right to sell securities directly to investors on our own behalf in those jurisdictions where we are authorized to do so.

The securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices. Any of the prices may represent a discount from the prevailing market prices. In the sale of the securities, underwriters, dealers, or agents may receive compensation from us or from purchasers of the securities, for whom they may act as agents, in the form of discounts, concessions, or commissions. Underwriters may sell the securities to or through dealers, and such dealers may receive compensation in the form of discounts, concessions, or commissions from the underwriters and/or commissions from the purchasers for whom they may act as agents. Underwriters, dealers, and agents that participate in the distribution of the securities may be deemed to be underwriters under the Securities Act and any discounts or commissions they receive from us and any profit on the resale of securities they realize may be deemed to be underwriting discounts and commissions under the Securities Act. The prospectus supplement will, where applicable, describe, disclose, or identify:

- the terms of the offering;
- any underwriters, dealers, or agents;
- any managing underwriter or underwriters;
- the purchase price of the securities;

- the net proceeds from the sale of the securities;
- any delayed delivery arrangements;
- any underwriting discounts, commissions, and other items constituting underwriters' compensation;
- any initial public offering price;
- any discounts or concessions allowed or re-allowed or paid to dealers; and
- any commissions paid to agents.

Any underwritten offering may be on a best efforts or a firm commitment basis. If underwriters are used in the sale, the underwriters will acquire the securities for their own account, including through underwriting, purchase, security lending or repurchase agreements with us. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions. Underwriters may sell the securities in order to facilitate transactions in any of our other securities (described in this prospectus or otherwise), including other public or private transactions and short sales. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise indicated in the prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or re-allowed or paid to dealers.

If dealers are used in the sale of securities offered through this prospectus, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. The prospectus supplement will include the names of the dealers and the terms of the transaction.

We may sell the securities offered through this prospectus directly or through agents designated from time to time. The prospectus supplement will name any agent involved in the offer or sale of the offered securities and will describe any commissions payable to the agent. Unless otherwise indicated in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. The terms of any such sales will be described in the prospectus supplement.

We may also make direct sales through subscription rights distributed to our stockholders on a pro rata basis, which may or may not be transferable. In any distribution of subscription rights to stockholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

If indicated in the applicable prospectus supplement, securities may also be offered or sold by a "remarketing firm" in connection with a remarketing arrangement contemplated by the terms of the securities. Remarketing firms may act as principals for their own accounts or as agents. The applicable prospectus supplement will identify any remarketing firm and the terms of its agreement, if any, with us. It will also describe the remarketing firm's compensation. Remarketing firms may be deemed to be underwriters in connection with the remarketing of the securities.

If the prospectus supplement indicates, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The applicable prospectus supplement will describe the commission payable for solicitation of those contracts.

We may from time to time engage a firm or firms to act as our agent for one or more offerings of our securities. We sometimes refer to any such agent as our “offering agent.” If we reach agreement with an offering agent with respect to a specific offering, including the number of securities and any minimum price below which sales may not be made, than the offering agent will try to sell such securities on the agreed terms. The offering agent could make sales in privately negotiated transactions or any other method permitted by law, including sales deemed to be an “at the market” offering as defined in Rule 415 promulgated under the Securities Act, including sales made directly on an exchange, or sales made to or through a market maker other than on an exchange. Any such offering agent will be deemed to be an “underwriter” within the meaning of the Securities Act with respect to any sales effected through an “at the market” offering.

Unless the applicable prospectus supplement states otherwise, each series of offered securities will be a new issue and will have no established trading market, other than shares of our common stock, which are listed The Nasdaq Capital Market. We may elect to list any series of offered securities on an exchange. Any underwriters that we use in the sale of offered securities may make a market in such securities, but may discontinue such market making at any time without notice. Therefore, we cannot assure you that the securities will have a liquid trading market.

Any underwriter may also engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Rule 104 under the Exchange Act. Stabilizing transactions involve bids to purchase the underlying security in the open market for the purpose of pegging, fixing or maintaining the price of the securities. Syndicate covering transactions involve purchases of the securities in the open market after the distribution has been completed in order to cover syndicate short positions.

Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a syndicate covering transaction to cover syndicate short positions. Stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the securities to be higher than it would be in the absence of the transactions. The underwriters may, if they commence these transactions, discontinue them at any time.

We, the underwriters, dealers, or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters, dealers, or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters, dealers, or agents. The underwriters, dealers, or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters, dealers, or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

We may also make sales through the Internet or through other electronic means. Since we may from time to time elect to offer securities directly to the public, with or without the involvement of agents, underwriters, or dealers, utilizing the Internet or other forms of electronic bidding or ordering systems for the pricing and allocation of such securities, you will want to pay particular attention to the description of that system we will provide in a prospectus supplement. Such electronic system may allow bidders to directly participate, through electronic access to an auction site, by submitting conditional offers to buy that are subject to acceptance by us, and which may directly affect the price or other terms and conditions at which such securities are sold. These bidding or ordering systems may present to each bidder, on a so-called “real-time” basis, relevant information to assist in making a bid, such as the clearing spread at which the offering would be sold, based on the bids submitted, and whether a bidder’s individual bids would be accepted, prorated or rejected.

Upon completion of such an electronic auction process, securities will be allocated based on prices bid, terms of bid or other factors. The final offering price at which securities would be sold and the allocation of securities among bidders would be based in whole or in part on the results of the Internet or other electronic bidding process or auction. Agents, underwriters, and dealers may be entitled, under agreements entered into with us, to indemnification by us against certain liabilities, including liabilities under the Securities Act. Our agents, underwriters, and dealers, or their affiliates, may be customers of, engage in transactions with or perform services for us, in the ordinary course of business.

To comply with applicable state securities laws, the securities offered by this prospectus will be sold, if necessary, in such jurisdictions only through registered or licensed brokers or dealers. In addition, securities may not be sold in some states unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Sales of Common Stock by the Selling Stockholders

As of the date of this prospectus, we have not been advised by any selling stockholder as to any plan of distribution. The Selling Stockholders may sell or distribute its shares of our common stock from time to time directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of the sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices. The sale of shares offered by this prospectus could be effected in one or more of the following methods:

- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- a block trade in which the broker-dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- through brokers, dealers, or underwriters who may act solely as agents;
- “at the market” into an existing market for the shares;
- in other ways not involving market makers or established business markets, including direct sales to purchasers or sales effected through agents;
- in privately negotiated transactions; or
- any combination of the foregoing.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of our common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of our common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee, or other successors in interest as selling stockholder under this prospectus. The selling stockholders also may transfer the shares of our common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of shares of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of shares of our common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out its short positions, or loan or pledge the shares of our common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares of our common stock offered under this prospectus, which shares of our common stock such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

Broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in sales. If the selling stockholders effect certain transactions by selling shares of our common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of our common stock for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with applicable rules of the Financial Industry Regulatory Authority, Inc. ("FINRA"); and in the case of a principal transaction a markup or markdown in compliance with applicable FINRA rules.

The aggregate proceeds to the selling stockholders from the sale of the shares of our common stock offered under this prospectus will be the purchase price of the shares of common stock less discounts or commissions, if any. The selling stockholders reserve the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of shares of our common stock to be made directly or through agents. We will not receive any of the proceeds from the offering under this prospectus.

The selling stockholders also may resell all or a portion of the shares of our common stock offered under this prospectus in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conforms to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the shares of our common stock or interests therein may be deemed to be "underwriters" within the meaning of Section 2(a)(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares of our common stock may be underwriting discounts and commissions under the Securities Act. Each selling stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities. The selling stockholders are subject to the prospectus delivery requirements of the Securities Act.

To the extent required pursuant to Rule 424(b) under the Securities Act, the shares of our common stock to be sold, the name of the selling stockholders, the purchase price and public offering price, the names of any agents, dealer or underwriter, and any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

We have agreed to keep this prospectus effective until the earliest to occur of the following events: (i) the date on which the selling stockholders shall have resold all the Securities covered hereby; and (ii) the date on which the Securities may be resold by the selling stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information requirement under Rule 144 under the Securities Act or any other rule of similar effect. In order to comply with the securities laws of some states, if applicable, the shares of our common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the shares of our common stock may not be sold unless the shares been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

The selling stockholders and any other person participating in a sale of shares of our common stock registered under this prospectus will be subject to applicable provisions of the Exchange Act, and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of our common stock by the selling stockholders and any other participating person. All of the foregoing may affect the marketability of the shares of our common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of our common stock. In addition, we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery

requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares of our common stock against certain liabilities, including liabilities arising under the Securities Act.

Nasdaq Listing

Our common stock is listed on The Nasdaq Capital Market under the symbol “TCRT.” On November 3, 2025, the last reported sale price of our common stock on The Nasdaq Capital Market was \$2.71 per share.

Additional Information

We may from time to time file with the SEC one or more supplements to this prospectus, or amendments to the registration statement to which this prospectus relates, to amend, supplement or update information contained in this prospectus, including, if and when required under the Securities Act, to disclose certain information relating to a particular sale of shares offered by this prospectus, including the names of any brokers, dealers, underwriters or agents participating in the distribution of such shares, any compensation paid to any such brokers, dealers, underwriters or agents, and any other required information.

LEGAL MATTERS

The validity of the securities offered by this prospectus and any related prospectus supplement will be passed upon for us by The Doney Law Firm, Las Vegas, NV. Any underwriters, dealers, or agents will be advised about other issues relating to any offering by their own legal counsel named in the applicable prospectus supplement.

EXPERTS

The financial statements of Alaunos Therapeutics, Inc. as of and for the year ended December 31, 2024, incorporated in this prospectus by reference from our Annual Report on Form 10-K as of and for the year ended December 31, 2024, have been audited, along with the adjustments described in Note 3 therein which were applied retroactively to reflect the July 2024 one-for-ten reverse stock split in the 2023 financial statements as of and for the year ended December 31, 2023, audited by Cherry Bekaert LLP, an independent registered public accounting firm, as set forth in their report thereon (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the entity's ability to continue as a going concern), and have been incorporated in this prospectus and registration statement in reliance upon the report of such firm given their authority as experts in accounting and auditing.

The financial statements of Alaunos Therapeutics, Inc. as of and for the year ended December 31, 2023, incorporated in this Prospectus by reference from our Annual Report on Form 10-K for the year ended December 31, 2024, have been audited, except for the adjustments to retroactively apply the July 2024 one-for-ten reverse stock split in the 2023 financial statements, by RSM US LLP, an independent registered public accounting firm, as stated in their report thereon (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the entity's ability to continue as a going concern) incorporated herein by reference, and have been incorporated in this Prospectus and Registration Statement in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

Our common stock is registered with the SEC under Section 12 of the Exchange Act and, accordingly, we are subject to the information and periodic reporting requirements of the Exchange Act, and we file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available at the website of the SEC at www.sec.gov.

We maintain a website at www.alaunos.com. You may access our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports, proxy statements and other information filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. We have not incorporated by reference into this prospectus or any accompanying prospectus supplement the information on our website, and you should not consider it to be a part of this prospectus or any accompanying prospectus supplement.

We have filed with the SEC a registration statement under the Securities Act, relating to the securities being offering by the Selling Stockholder. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement for free at the website of the SEC referenced above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information that we file with them. Incorporation by reference allows us to disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. This prospectus omits certain information contained in the registration statement, as permitted by the SEC. You should refer to the registration statement, including the exhibits, for further information about us and the securities we may offer pursuant to this prospectus. Statements in this prospectus regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. Copies of all or any part of the registration statement, including the documents incorporated by reference or the exhibits, may be obtained upon payment of the prescribed rates at the offices of the SEC listed above in “Where You Can Find More Information.” The following documents filed by us with the Commission are incorporated by reference in this prospectus:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2024, filed with the SEC on March 31, 2025, as amended on [April 30, 2025](#);
- our Quarterly Report on Form 10-Qs for the quarter ended March 31, 2025, filed with the SEC on [May 15, 2025](#) and for the quarter ended June 30, 2025, filed with the SEC on [August 14, 2025](#);
- our Current Reports on Form 8-K filed with the SEC on [April 11, 2025](#), [April 14, 2025](#), [April 15, 2025](#), [April 18, 2025](#), [May 23, 2025](#), [June 10, 2025](#), [June 26, 2025](#)/[June 26, 2025](#) (two reports), [July 2, 2025](#), [July 10, 2025](#), [July 17, 2025](#), and [July 22, 2025](#), to the extent the information in such reports is filed and not furnished; and
- the description of our common stock set forth in [Exhibit 4.7](#) to our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, which was filed with the SEC on March 30, 2022, including any amendment or reports filed for the purposes of updating this description.

We also incorporate by reference all documents we file pursuant to Section 13(a), 13(c), 14 or 15 of the Exchange Act (other than any portions of filings that are furnished rather than filed pursuant to Items 2.02 and 7.01 of a Current Report on Form 8-K) after the date of the initial registration statement of which this prospectus is a part and prior to effectiveness of such registration statement. All documents we file in the future pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the termination of the offering are also incorporated herein by reference and are an important part of this prospectus.

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

We will provide upon request to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in the prospectus but not delivered with the prospectus. You may request a copy of these filings, excluding the exhibits to such filings which we have not specifically incorporated by reference in such filings, at no cost, by writing to or calling us at:

Alaunos Therapeutics, Inc.
501 E. Las Olas Blvd., Suite 300
Fort Lauderdale, FL 33301
(346) 355-4099

You can also find these filings on our website at www.alaunos.com. We are not incorporating the information on our website other than these filings into this prospectus or any accompanying prospectus supplement.

This prospectus is part of a registration statement we filed with the SEC. You should only rely on the information or representations contained in this prospectus, in any accompanying prospectus supplement or any related free writing prospectus, or incorporated by reference herein or therein. Neither we nor the Selling Stockholders have authorized anyone to provide information other than that provided in this prospectus, any accompanying prospectus supplement or any free writing prospectus we have prepared. Neither we nor the Selling Stockholders are making an offer of the securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front of the document.

**380,469 Shares of Common Stock
Pre-Funded Warrants to Purchase up to 386,654 Shares of Common Stock (and 386,654 Shares of
Common Stock underlying such Pre-Funded Warrants)**

ALAUNOS THERAPEUTICS, INC.

PROSPECTUS SUPPLEMENT

Dawson James Securities, Inc.

September 18, 2026
