

PROSPECTUS SUPPLEMENT
(to Prospectus dated January 3, 2022)



Up to \$27,243,504 of Shares of Common Stock

This prospectus supplement relates to the issuance and sale of up to \$27,243,504 of shares of our common stock, par value \$0.001 per share, or common stock, that we may issue and sell to Seven Knots, LLC, or Seven Knots, from time to time, in our sole discretion, under a Common Stock Purchase Agreement, dated as of June 26, 2024, by and between us and the Seven Knots, or the Purchase Agreement, establishing an equity line of credit, or the ELOC. This prospectus supplement also covers the resale of these shares by Seven Knots to the public. See “Seven Knots Transaction” for a description of the Purchase Agreement and additional information regarding Seven Knots. Seven Knots is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended, or the Securities Act.

The purchase price for the shares will be based on formulas set forth in the Purchase Agreement depending upon the type of purchase notice that we submit to Seven Knots from time to time. We will pay the expenses incurred in connection with the issuance of the shares of our common stock. See “Plan of Distribution.”

On August 23, 2024, we filed a registration statement on Form S-1, which was declared effective by the Securities Exchange Commission, or SEC, on September 3, 2024 (SEC File No. 333-281755) that covered the resale of up to 10,679,758 shares of our common stock under the Purchase Agreement. As of October 25, 2024, we have issued 5,499,273 shares of our common stock for total gross cash proceeds of \$7,756,496 pursuant to the Purchase Agreement.

Our common stock is listed on The Nasdaq Capital Market under the symbol “WINT.” The last reported sale price of our common stock on The Nasdaq Capital Market on October 25, 2024, was \$0.8637 per share.

We are a “smaller reporting company” as defined under the federal securities laws and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus supplement and the documents incorporated by reference herein and may elect to comply with reduced public company reporting requirements in future filings. See “*Prospectus Summary — Implications of Being a Smaller Reporting Company.*”

Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-5 of this prospectus supplement, page 6 of the accompanying prospectus and under similar headings in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS SUPPLEMENT IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus supplement is October 28, 2024.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC utilizing a “shelf” registration process. This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

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.

Neither we nor Seven Knots have authorized anyone to provide you with any information or to make any representations other than those included or incorporated by reference in this prospectus supplement and the accompanying prospectus and any relevant free writing prospectus we may authorize for use in connection with this offering. If you receive any information not authorized by us, we take no responsibility for, and can provide no assurance as to the reliability of, such information. We are not making an offer to sell the securities offered hereby in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained or incorporated by reference in this prospectus supplement or the accompanying prospectus or any relevant free writing prospectus we may authorize for use in connection with this offering is accurate as of any date other than its respective date, regardless of its time of delivery or any sale of the securities covered hereby. Our business, financial condition, results of operations and prospects may have changed since that date.

You should rely only on the information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein. We have not authorized anyone to provide you with information that is different. The information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein or therein is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our securities. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and 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 Documents By Reference” in this prospectus supplement and in the accompanying prospectus, respectively.

We are offering to sell, and seeking offers to buy, the securities offered by this prospectus supplement only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the securities offered by this prospectus supplement in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless the context otherwise requires, references in this prospectus supplement to “Windtree,” “Windtree Therapeutics,” “the Company,” “we,” “our,” and “us” refer to Windtree Therapeutics, Inc., a Delaware corporation, and our consolidated subsidiaries.

We use “Windtree Therapeutics,” as our trademark, and we have been granted a trademark or have a trademark application on file with the United States Patent and Trademark Office. All trademarks or trade names referred to in this prospectus supplement and the accompanying prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus supplement and the accompanying prospectus are referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend the use or display of other companies’ trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us, by any other companies.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained in other parts of this prospectus supplement and the accompanying prospectus and in the documents we incorporate by reference. Because it is only a summary, it does not contain all of the information that you should consider before investing in our securities and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus supplement, the accompanying prospectus, any applicable free writing prospectus and the documents incorporated by reference herein and therein. You should read all such documents carefully, especially the risk factors and our consolidated financial statements and the related notes included or incorporated by reference herein or therein, before deciding to buy our securities.

Overview

We are a biotechnology company focused on advancing early and late-stage innovative therapies for critical conditions and diseases. Our portfolio of product candidates includes istaroxime, a Phase 2 candidate that inhibits the sodium-potassium ATPase and also activates sarco endoplasmic reticulum Ca²⁺-ATPase 2a, or SERCA2a, for acute heart failure and associated cardiogenic shock; preclinical SERCA2a activators for heart failure; rostafuroxin for the treatment of hypertension in patients with a specific genetic profile; and a preclinical atypical protein kinase C iota, or aPKCi, inhibitor (topical and oral formulations), being developed for potential application in rare and broad oncology indications. We also have a licensing business model with partnership out-licenses currently in place.

Our lead product candidate, istaroxime, is a first-in-class, dual-acting agent being developed to increase blood pressure and improve cardiac function in patients with cardiogenic shock and to improve cardiac function in patients with acute heart failure, or AHF, and reverse the hypotension and hypoperfusion associated with heart failure that deteriorates to cardiogenic shock. Istaroxime demonstrated significant improvement in both systolic and diastolic aspects of cardiac function and was generally well tolerated in three Phase 2 clinical trials. Istaroxime has been granted Fast Track designation for the treatment of AHF by the U.S. Food and Drug Administration. Based on the profile observed in our Phase 2 clinical studies in AHF, where istaroxime significantly improved cardiac function and systolic blood pressure in acute decompensated heart failure patients and had a favorable renal profile, we initiated a Phase 2 global clinical study, or the SEISMic Study, to evaluate istaroxime for the treatment of early cardiogenic shock (Society for Cardiovascular Angiography and Interventions, or SCAI, Stage B shock), a severe form of AHF characterized by very low blood pressure and risk for hypoperfusion to critical organs and mortality. In April 2022, we announced our observations in the SEISMic Study that istaroxime rapidly and significantly increased systolic blood pressure while also improving cardiac function and preserving renal function. We believe that istaroxime has the potential to fulfill an unmet need in early and potentially more severe cardiogenic shock. We further believe that the data from the SEISMic Study supports continued development in both cardiogenic shock and AHF. In the fourth quarter of 2023, we initiated an extension to the SEISMic Study, or the SEISMic Extension, to evaluate a longer dosing period and to continue to characterize the effects of istaroxime, including activation of SERCA2a in 30 subjects. In September 2024, we announced positive topline clinical results for the SEISMic Extension. In the SEISMic Extension, we observed that istaroxime significantly improved systolic blood pressure as well as cardiac output and renal function without increasing heart rate or clinically significant arrhythmias. Additionally, we have recently initiated a small study in more severe SCAI Stage C cardiogenic shock, or the SEISMic C Study, to evaluate the safety and efficacy of istaroxime in cardiogenic shock patients who are also receiving standard of care rescue therapy for shock. The SEISMic C Study is expected to enroll up to 20 subjects with SCAI Stage C cardiogenic shock with enrollment anticipated to be completed in late 2024. Our ability to continue clinical development of istaroxime is dependent upon our ability to secure adequate resourcing for the program through financing efforts or business development activities.

Our heart failure cardiovascular portfolio also includes other SERCA2a activators. One family of compounds has the dual mechanism of action that includes inhibition of the sodium-potassium ATPase as well as activation of SERCA2a. The other family of compounds are considered selective SERCA2a activators and are devoid of activity against the sodium-potassium ATPase. This research program is evaluating these preclinical product candidates, including oral and intravenous SERCA2a activator heart failure compounds. These candidates would potentially be developed for both acute decompensated and chronic out-patient heart failure. In addition, our cardiovascular drug product candidates include rostafuroxin, a novel product candidate for the treatment of hypertension in patients with a specific genetic profile. We are pursuing potential licensing arrangements and/or other strategic partnerships and do not intend to advance the development of rostafuroxin without securing such an arrangement or partnership.

Our cardiovascular assets and programs are associated with a regional licensed partnership with Lee's Pharmaceutical (HK) Ltd., or Lee's (HK), for the development and commercialization of our product candidate, istaroxime, in Greater China. In addition to istaroxime, the agreement also licenses our preclinical next-generation dual mechanism SERCA2a activators, and rostafuroxin. In addition, we are supporting the efforts of Lee's (HK) in starting a Phase 3 trial in AHF with istaroxime.

On April 2, 2024, we entered into an Asset Purchase Agreement, or the Asset Purchase Agreement, with Varian Biopharmaceuticals, Inc., or Varian. Pursuant to the Asset Purchase Agreement, we purchased all of the assets of Varian's business associated with a license agreement, dated as of July 5, 2019, by and between Varian and Cancer Research Technology Limited, or the Licence Agreement, which includes the Licence Agreement, all rights in molecules and compounds subject to the Licence Agreement, know-how and inventory of drug substance, or the Transferred Assets. The Transferred Assets include a novel, potential high-potency, specific, aPKCi inhibitor with possible broad use in oncology as well as certain rare malignant diseases. The asset platform includes two formulations (topical and oral) of an aPKCi inhibitor. We plan to advance investigational new drug enabling activities and are in the process of determining the expected clinical development plan for the platform.

Our ability to advance our development programs is dependent upon our ability to secure additional capital in both the near and long-term, through public or private securities offerings; convertible debt financings; and/or potential strategic opportunities, including licensing agreements, drug product development, marketing collaboration arrangements, pharmaceutical research cooperation arrangements, and/or other similar transactions in geographic markets, including the U.S., and/or through potential grants and other funding commitments from U.S. government agencies, in each case, if available. We have engaged with potential counterparties in various markets and will continue to pursue non-dilutive sources of capital as well as potential private and public securities offerings. There can be no assurance, however, that we will be able to identify and enter into public or private securities offerings on acceptable terms and in amounts sufficient to meet our needs or qualify for non-dilutive funding opportunities under any grant programs sponsored by U.S. government agencies, private foundations, and/or leading academic institutions, or identify and enter into any strategic transactions that will provide the additional capital that we will require. If none of these alternatives is available, or if available and we are unable to raise sufficient capital through such transactions, we potentially could be forced to limit or cease our development activities, as well as modify or cease our operations, either of which would have a material adverse effect on our business, financial condition, and results of operations.

Corporate Information

We were incorporated in Delaware on November 6, 1992. Our principal executive offices are located at 2600 Kelly Road, Suite 100, Warrington, Pennsylvania 18976, and our telephone number is (215) 488-9300. Our website address is www.windtreetx.com. The information on, or that can be accessed through, our website is not part of this prospectus supplement and is not incorporated by reference herein and you should not consider it part of this prospectus supplement. We have included our website address as an inactive textual reference only.

Implications of Being a Smaller Reporting Company

We are a smaller reporting company as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as (i) the market value of our voting and non-voting common stock held by non-affiliates is less than \$250 million measured on the last business day of our second fiscal quarter or (ii) our annual revenue is less than \$100 million during the most recently completed fiscal year and the market value of our voting and non-voting common stock held by non-affiliates is less than \$700 million measured on the last business day of our second fiscal quarter. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Reports on Form 10-K and have reduced disclosure obligations regarding executive compensation, and, as long as we are a smaller reporting company with less than \$100 million in annual revenue, we are not required to obtain an attestation report on internal control over financial reporting from our independent registered public accounting firm.

Recent Developments

July 2024 Private Placement of Preferred Stock and Warrants

On July 22, 2024, we consummated the first tranche of a private placement in which we issued and sold 16,260 shares, or the Preferred Shares, of our Series C convertible preferred stock, par value \$0.001 per share, or the Series C Preferred Stock, and 3,503,523 warrants, or the July Warrants, pursuant to the Securities Purchase Agreement, dated July 18, 2024, or the Tranche I Purchase Agreement, by and among us and the investors party thereto, or the Tranche I Investors, for aggregate proceeds to us of approximately \$12.9 million, of which \$9.5 million was paid through the cancellation and extinguishment of certain holders' (x) outstanding principal amount, conversion/exchange premiums and all accrued interest and dividends thereon under our (i) 10% senior convertible notes due January 2025, (ii) senior secured notes due June 2025, (iii) senior unsecured promissory notes due July 2025, and (iv) senior secured notes due July 2025, and (y) 5,500 shares of our Series B Convertible Preferred Stock, par value \$0.001 per share.

On July 29, 2024, we consummated the second tranche of a private placement in which we issued and sold 1,280 shares of Series C Preferred Stock and 275,402 July Warrants, pursuant to the Securities Purchase Agreement, dated July 26, 2024, or the Tranche II Purchase Agreement and together with the Tranche I Purchase Agreement, the Purchase Agreements, by and among us and the investor party thereto, or the Tranche II Investor, and together with the Tranche I Investors, the Investors, for aggregate cash proceeds to us of approximately \$1.0 million.

The terms of the Series C Preferred Stock are as set forth in the Certificate of Designations of the Series C Convertible Preferred Stock, or the Series C Certificate of Designations, which was filed and became effective with the Secretary of State of the State of Delaware on July 19, 2024. Each holder of Series C Preferred Stock may convert all, or any part, of the outstanding Series C Preferred Stock, at any time at such holder's option, into shares of our common stock at an initial conversion price of \$3.74, which is subject to adjustment as provided in the Series C Certificate of Designations to no lower than \$1.28.

The July Warrants have an exercise price of \$4.11 per share, subject to customary adjustments, will become exercisable on the six month and one day anniversary of the issuance date, or the Initial Exercisability Date, and will expire on the fifth anniversary of the Initial Exercisability Date.

Pursuant the terms of the Purchase Agreements, we filed a Registration Statement on Form S-3 (File No. 333-281688) on August 21, 2024, which became effective September 3, 2024, registering for resale the shares of our common stock issuable upon (i) the conversion of the Preferred Shares, and (ii) exercise of the July Warrants.

THE OFFERING

Common stock offered by us	Up to \$27,243,504 of shares of common stock that we may sell to Seven Knots, from time to time at our sole discretion in accordance under the Purchase Agreement.
Shares of common stock outstanding immediately prior to this offering	8,746,128 shares (as of October 25, 2024).
Shares of common stock outstanding immediately following this offering	40,288,914 shares of common stock, assuming the sale of 31,542,786 shares of common stock at a price of \$0.8637, which was the closing price of our common stock on the Nasdaq Capital Market on October 25, 2024. The actual number of shares issued will vary depending on the sales prices in this offering in accordance with the Purchase Agreement. The Purchase Agreement also provides that Seven Knots will not purchase or acquire any shares of common stock under the Purchase Agreement which, when aggregated with all other shares of common stock beneficially owned by Seven Knots and its affiliates would result in the beneficial ownership of Seven Knots and its affiliates of more than 4.99% of the issued and outstanding shares of our common stock.
Use of proceeds	We may receive up to \$27,243,504 in aggregate gross proceeds under the Purchase Agreement pursuant to this prospectus supplement from any sales we make to Seven Knots pursuant to the Purchase Agreement. We intend to use net proceeds that we receive under the Purchase Agreement for the redemption of our Series C Preferred Stock, working capital and other general corporate purposes. However, as of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses, and the respective amounts we may allocate to those uses, for any net proceeds we receive. See “Use of Proceeds” on page S-12.
Risk factors	An investment in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-5 of this prospectus supplement, the accompanying prospectus and the other information incorporated by reference herein and therein for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Nasdaq Capital Market symbol	“WINT.”

The number of shares of our common stock that will be outstanding after this offering is based on 8,746,128 shares of common stock outstanding as of October 25, 2024, and excludes:

- 9,589,419 shares of common stock issuable upon conversion of our outstanding shares of Series C Preferred Stock as of the date hereof;
- 4,037,055 shares of our common stock issuable as of the date hereof upon the exercise of warrants outstanding as of October 25, 2024, at a weighted-average exercise price of \$18.73 per share;
- 14,858 shares of our common stock issuable upon the exercise of the stock options outstanding as of October 25, 2024, at a weighted-average exercise price of \$1,551.47 per share;
- 8,107 shares of common stock issuable upon the vesting and settlement of restricted stock units outstanding as of October 25, 2024; and
- 503 shares of common stock available for future grant as of October 25, 2024 under our Amended and Restated 2020 Equity Incentive Plan, or the 2020 Equity Plan.

Unless otherwise indicated, all information contained in this prospectus supplement assumes no conversion of the outstanding shares of preferred stock, no exercise of the outstanding options or warrants, and no settlement of the restricted stock units described in the bullets above.

RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should carefully consider the risks described below and those discussed under the section captioned “Risk Factors” contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, as updated by our subsequent filings under the Exchange Act, which are incorporated by reference in this prospectus supplement and the accompanying prospectus, together with other information in this prospectus supplement, the accompanying prospectus, the information and documents incorporated by reference herein and therein, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Related to the ELOC

It is not possible to predict the total number of shares of our common stock we will sell under the Purchase Agreement, or the total gross proceeds resulting from those sales or the dilution to you from those sales.

Pursuant to the Purchase Agreement, Seven Knots may purchase from us up to \$35.0 million of shares of common stock, of which \$27,243,504 remains available for purchase and sale as of the date hereof pursuant to the Purchase Agreement. The shares of our common stock that may be issued under the Purchase Agreement may be sold by us to Seven Knots at our discretion from time to time until the earliest to occur of (i) the first day of the month next following the 24-month anniversary of the Commencement Date (as defined in the Purchase Agreement), (ii) the date on which Seven Knots shall have purchased the Commitment Amount (as defined in the Purchase Agreement), (iii) the date on which our common stock fails to be listed or quoted on Nasdaq or any Eligible Market (as defined in the Purchase Agreement), (iv) the thirtieth trading day next following the date on which, pursuant to or within the meaning of any bankruptcy law, we commence a voluntary case or any person commences a proceeding against us, in each case that is not discharged or dismissed prior to such thirtieth trading day, and (v) the date on which, pursuant to or within the meaning of any bankruptcy law, a custodian is appointed for us or for all or substantially all of our property, or we make a general assignment for the benefit of our creditors, or each, a Termination Event (as defined in the Purchase Agreement).

Because the purchase price per share of common stock to be paid by Seven Knots for the common stock that we may elect to sell to Seven Knots under the Purchase Agreement will fluctuate based on the market prices of our common stock at the time we make such election, it is not possible for us to predict, as of the date of this prospectus supplement, the total number of shares of common stock that we will sell to Seven Knots under the Purchase Agreement, the purchase price per share that Seven Knots will pay for shares of common stock purchased from us under the Purchase Agreement, or the aggregate gross proceeds that we will receive from those purchases by Seven Knots under the Purchase Agreement. As of October 25, 2024, we have sold 5,499,273 shares under the Purchase Agreement for aggregate gross proceeds of \$7,756,496.

Additionally, Seven Knots is not obligated to buy any common stock under the Purchase Agreement if such shares, when aggregated with all other common stock then beneficially owned by Seven Knots and its affiliates (as calculated pursuant to Section 13(d) of the Securities Exchange Act, and Rule 13d-3 promulgated thereunder), would result in Seven Knots beneficially owning common stock in excess of 4.99% of the then-outstanding shares of common stock. Our inability to access a portion or the full amount available under the Purchase Agreement, in the absence of any other financing sources, could have a material adverse effect on our business or results of operation.

Seven Knots will pay less than the then-prevailing market price for our common stock, which could cause the price of our common stock to decline.

The purchase price of our common stock to be sold to Seven Knots under the Purchase Agreement is derived from the market price of our common stock on Nasdaq. Shares to be sold to Seven Knots pursuant to the Purchase Agreement will be purchased at a discounted price. For example, we may effect sales to Seven Knots pursuant to a Fixed Purchase Notice (as defined below) at a purchase price equal to the lesser of 95% of (i) the daily volume weighted average price of the common stock for the five trading days immediately preceding the applicable Fixed Purchase Date (as defined below) and (ii) the lowest trading price of a share of common stock during the full trading day on the trading day immediately following the applicable Fixed Purchase Date. See “*The Seven Knots Transaction*” for more information. As a result of this pricing structure, Seven Knots may sell the shares they receive immediately after receipt of such shares, which could cause the price of our common stock to decrease.

Investors who buy shares of common stock from Seven Knots at different times will likely pay different prices.

Pursuant to the Purchase Agreement, we have discretion, to vary the timing, price and number of shares of common stock we sell to Seven Knots. If and when we elect to sell shares of common stock to Seven Knots pursuant to the Purchase Agreement, after Seven Knots has acquired such shares, Seven Knots may resell all, some or none of such shares at any time or from time to time in its sole discretion and at different prices. As a result, investors who purchase shares from Seven Knots in this offering at different times will likely pay different prices for those shares, and so may experience different levels of dilution and in some cases substantial dilution and different outcomes in their investment results. Investors may experience a decline in the value of the shares they purchase from Seven Knots in this offering as a result of future sales made by us to Seven Knots at prices lower than the prices such investors paid for their shares in this offering. In addition, if we sell a substantial number of shares to Seven Knots under the Purchase Agreement, or if investors expect that we will do so, the actual sales of shares or the mere existence of our arrangements with Seven Knots may 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 such sales.

Future resales and/or issuances of shares of common stock, including pursuant to this prospectus supplement, or the perception that such sales may occur, may cause the market price of our shares to drop significantly.

In June 2024, we entered into the Purchase Agreement, pursuant to which Seven Knots shall purchase from us up to an aggregate of \$35.0 million of shares of common stock, upon the terms and subject to the conditions and limitations set forth in the Purchase Agreement. The shares of our common stock that may be issued under the Purchase Agreement may be sold by us to Seven Knots at our discretion until the earliest to occur of (i) the first day of the month next following the 24-month anniversary of the Commencement Date, (ii) the date on which Seven Knots shall have purchased the Commitment Amount, (iii) the date on which our common stock fails to be listed or quoted on Nasdaq or any Eligible Market (as defined in the Purchase Agreement), (iv) the thirtieth trading day next following the date on which, pursuant to or within the meaning of any bankruptcy law, we commence a voluntary case or any person commences a proceeding against us, in each case that is not discharged or dismissed prior to such thirtieth trading day, and (v) the date on which, pursuant to or within the meaning of any bankruptcy law, a custodian is appointed for us or for all or substantially all of our property, or we make a general assignment for the benefit of our creditors.

The purchase price for shares of our common stock that we may sell to Seven Knots under the Purchase Agreement will fluctuate based on the trading price of shares of our common stock. Depending on market liquidity at the time, sales of shares of our common stock may cause the trading price of shares of our common stock to decrease. We generally have the right to control the timing and amount of any future sales of shares of our common stock to Seven Knots. Additional sales of shares of our common stock to Seven Knots will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Seven Knots all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares of our common stock to Seven Knots, after Seven Knots has acquired shares of our common stock, Seven Knots may resell all, some or none of such shares of our common stock at any time or from time to time in its discretion and at different prices. Therefore, sales to Seven Knots by us could result in substantial dilution to the interests of other holders of shares of our common stock. In addition, if we sell a substantial number of shares of our common stock to Seven Knots under the Purchase Agreement, or if investors expect that we will do so, the shares held by Seven Knots will represent a significant portion of our public float and may result in substantial decreases to the price of our common stock. The actual sales of shares of our common stock or the mere existence of our arrangement with Seven Knots may also 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 such sales.

In addition, shares of our common stock issuable upon exercise or vesting of incentive awards under our incentive plans are, once issued, eligible for sale in the public market, subject to any lock-up agreements and, in some cases, limitations on volume and manner of sale applicable to affiliates under Rule 144. Furthermore, shares of our common stock reserved for future issuance under our incentive plan may become available for sale in future.

As of October 25, 2024, there were approximately 22,965 shares subject to outstanding options and restricted stock unit awards or that are otherwise issuable under our equity compensation plans, all of which shares we have registered or will register under the Securities Act on a registration statement on Form S-8. The registered shares can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates, to the extent applicable.

As of October 25, 2024, we had outstanding warrants exercisable for 4,037,055 shares of common stock with a weighted-average exercise price of \$18.73 per share. The shares of our common stock underlying such warrants will, upon issuance, be freely tradeable without restriction or further registration under the Securities Act.

Additionally, as of October 25, 2024, we had 12,274 shares of Series C Preferred Stock outstanding, which are convertible into 9,589,419 shares of our common stock. The shares of our common stock upon conversion will, upon issuance, be freely tradeable without restriction or further registration under the Securities Act.

The market price of shares of our common stock could drop significantly if the holders described above sell or are perceived by the market as intending to sell. These factors could also make it more difficult for us to raise additional funds through future offerings of shares of our common stock or other securities.

We may use proceeds from sales of our common stock made pursuant to the Purchase Agreement in ways with which you may not agree or in ways which may not yield a significant return.

We will have broad discretion over the use of proceeds from sales of our common stock made pursuant to the Purchase Agreement, 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 proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds, their ultimate use may vary substantially from their currently intended use. While we expect to use the net proceeds from this offering as set forth in “*Use of Proceeds*,” we are not obligated to do so. Further, pursuant to the Certificate of Designations of Rights and Preferences of our Series C Preferred Stock, we are obligated to use 30% of any proceeds received under the Purchase Agreement to facilitate the redemption of shares of such Series C Preferred Stock. The failure by us to apply these funds effectively could harm our business, and the net proceeds may be used for corporate purposes that do not increase our operating results or enhance the value of our common stock.

We granted anti-dilution protection to certain of our investors, which will cause additional significant dilution to our stockholders and may have a material adverse impact on the market price of our common stock and make it more difficult for us to raise funds through future equity offerings.

We have granted anti-dilution protections to holders of certain of our warrants and holders of our Series C Preferred Stock that may result in the issuance of additional shares as a result of this offering and would result in the issuance of additional shares as a result of future offerings below certain threshold prices. Moreover, the perceived risk of dilution and the resulting downward pressure on our common stock price could encourage investors to engage in short sales of our common stock, which could further contribute to price declines in our common stock. The fact that certain of our stockholders and our warrant holders can sell substantial amounts of our common stock in the public market, whether or not sales have occurred or are occurring, as well as the existence of anti-dilution provisions granted in most of our recent equity financings, could make it more difficult for us to raise additional funds through the sale of equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate, or at all.

Risks Related to Our Finances and Capital Requirements

Our current cash position, losses, negative cash flows from operations and accumulated deficit raise substantial doubt about our ability to continue as a going concern absent obtaining adequate new debt or equity financings.

The auditor’s opinion on our audited financial statements for the year ended December 31, 2023 includes an explanatory paragraph stating that we have incurred recurring losses from operations that raise substantial doubt about our ability to continue as a going concern. Management has also concluded that substantial doubt exists about our ability to continue as a going concern. As of June 30, 2024, we had cash and cash equivalents of \$1.8 million and current liabilities of \$8.8 million. In July 2024, we entered into the Purchase Agreements, pursuant to which we agreed to sell shares of Series C Preferred Stock and warrants for an aggregate of \$13.9 million in gross proceeds, of which \$9.5 million was paid through the cancellation and extinguishment of certain holders’ (i) outstanding principal amount, conversion/exchange premiums and all accrued interest and dividends thereon under certain of our notes, and (ii) 5,500 shares of our Series B Convertible Preferred Stock, par value \$0.001 per share. As of October 25, 2024, we have issued 5,499,273 shares of our common stock for total gross cash proceeds of \$7,756,496 pursuant to the Purchase Agreement. We believe that our cash and cash equivalents on hand will be sufficient to fund our currently anticipated operating and capital requirements through January 2025.

To alleviate the conditions that raise substantial doubt about our ability to continue as a going concern, management plans to secure additional capital, potentially through a combination of public or private securities offerings; convertible debt financings; and/or strategic transactions, including potential licensing arrangements, alliances and drug product collaborations focused on specified geographic markets; however, none of these alternatives are committed at this time. There can be no assurance that we will be successful in obtaining sufficient funding on terms acceptable to us to fund continuing operations, if at all, or identify and enter into any strategic transactions that will provide the capital that we will require. If none of these alternatives is available, or if available, we are unable to raise sufficient capital through such transactions, we will not have sufficient cash resources and liquidity to fund our business operations for at least the next 12 months following the date that the financial statements are issued. In addition, we may be unable to pay our vendors and other service partners on time, or at all. If any of our key vendors and service providers were to cease working with us or subject the delivery of products or services to timing or payment preconditions, our development activities may be adversely affected, which could have a material adverse effect on our business and operations. The failure to obtain sufficient additional capital on acceptable terms or at all. If such additional financing is not available on satisfactory terms, or is not available in sufficient amounts, we may be required to delay, limit or eliminate the development of business opportunities and our ability to achieve our business objectives and our competitiveness, and our business, financial condition and results of operations will be materially adversely affected. In addition, market instability, including as a result of geopolitical instability, may reduce our ability to access capital, which could negatively affect our liquidity and ability to continue as a going concern. Further, the perception that we may not be able to continue as a going concern may cause others to choose not to deal with us due to concerns about our ability to meet our contractual obligations.

Our forecast of the period of time through which our financial resources will be adequate to support our operating requirements is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed elsewhere in this “Risk Factors” section and Part I, Item 1A “Risk Factors” of our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on April 16, 2024 and any of our subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K. We have based this estimate on a number of assumptions that may prove to be wrong and changing circumstances beyond our control may cause us to consume capital more rapidly than we currently anticipate. Our inability to obtain additional funding when we need it could seriously harm our business.

We have incurred significant operating losses since inception, we expect to incur operating losses in the future, and we may not be able to achieve or sustain profitability.

We have incurred operating losses since our incorporation on November 6, 1992. For the year ended December 31, 2023, we had operating losses of \$20.6 million. As of June 30, 2024 we had an accumulated deficit of \$846.6 million. To date, we have financed our operations primarily through private placements and public offerings of our common and preferred stock and borrowings from investors and financial institutions. As of June 30, 2024, we had cash and cash equivalents of \$1.8 million and current liabilities of \$8.8 million. In July 2024, we entered into securities purchase agreements with certain investors thereto, or the Purchase Agreements, pursuant to which we agreed to sell shares of Series C Preferred Stock, and warrants to purchase shares of common stock, for an aggregate of \$13.9 million in gross proceeds, of which \$9.5 million was paid through the cancellation and extinguishment of certain of our securities held by certain holders. As of October 25, 2024, we have issued 5,499,273 shares of our common stock for total gross cash proceeds of \$7,756,496 pursuant to the Purchase Agreement. We believe that our cash and cash equivalents on hand will be sufficient to fund our currently anticipated operating and capital requirements through January 2025.

We expect to continue to incur significant research and clinical development, regulatory and other expenses as we (i) develop product candidates; (ii) seek regulatory clearances or approvals for our planned or future product candidates; (iii) conduct clinical trials on our planned or future product candidates; and (iv) manufacture, market, and sell any product candidates for which we may obtain regulatory approval. As a result, we expect to continue to incur operating losses for the foreseeable future and may never achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on an ongoing basis. If we do not achieve or sustain profitability, it will be more difficult for us to finance our business and accomplish our strategic objectives, either of which would have a material adverse effect on our business, financial condition and results of operations and may cause the market price of our common stock to decline.

Risks Related to the Ownership of Our Securities

The market price of our common stock may be highly volatile, and investors may not be able to resell their shares at or above the price at which they purchase them.

The market price of our common stock, like that of many other development stage pharmaceutical or biotechnology companies, has been and is likely to be volatile. In addition to general economic, political and market conditions, the price and trading volume of our stock could fluctuate widely in response to many factors, including:

- our ability to execute our planned clinical trials on a timely basis consistent with timelines established;
- results of our clinical trials and preclinical studies, and the results of trials of our competitors or those of other companies in our market sector;
- regulatory approval of our product candidates, or limitations to specific label indications or patient populations for its use, or changes or delays in the regulatory review process;
- regulatory developments in the U.S. and foreign countries;
- changes in the structure of healthcare payment systems, especially in light of current reforms to the U.S. healthcare system;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates, along with any product modifications and improvements;
- the success or failure of our efforts to acquire, license or develop additional product candidates;
- innovations or new products developed by us or our competitors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- manufacturing, supply or distribution delays or shortages;
- any changes to our relationship with any manufacturers, suppliers, licensors, future collaborators or other strategic partners;
- our expectations regarding the potential market size and the size of the patient populations for our product candidates;
- the implementation of our business model and strategic plans for our business and technology;
- achievement of expected product sales and profitability;

- variations in our financial results or those of companies that are perceived to be similar to us;
- market conditions in the biopharmaceutical sector and issuance of securities analysts' reports or recommendations;
- trading volume of our common stock;
- an inability to obtain additional funding;
- sales of our stock by insiders and stockholders;
- general economic, industry and market conditions other events or factors, including as a result of inflation, liquidity constraints or banking stability, many of which are beyond our control;
- our commercialization, marketing and manufacturing prospects and capabilities;
- additions or departures of key personnel; and
- intellectual property, product liability or other litigation against us.

In addition, the stock markets in general, and the markets for biopharmaceutical and biotechnology stocks in particular, have experienced extreme volatility that may have been unrelated to the operating performance of the issuer. These broad market fluctuations may adversely affect the market price or liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the issuer. If any of our stockholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the attention of our management would be diverted from the operation of our business.

We are required to maintain compliance the Nasdaq continued listing requirements and other Nasdaq rules, or we may risk delisting. Delisting could negatively affect the price of our common stock, which could make it more difficult for us to sell securities in a future financing or for you to sell our common stock.

We are required to meet the continued listing requirements of Nasdaq and other Nasdaq rules. In particular, pursuant to Nasdaq Listing Rule 5550(a)(2), we are required to maintain a minimum bid price for our listed common stock of \$1.00 per share, or the Minimum Bid Price Requirement. If our common stock trades under \$1.00 for 30 consecutive days, we will receive a notice from Nasdaq notifying us that our common stock is subject to delisting from The Nasdaq Capital Market. Normally, a company would be afforded a 180-calendar day period to demonstrate compliance with the Minimum Bid Price Requirement. However, pursuant to Nasdaq Listing Rule 5810(c)(3)(A)(iv), we are not eligible for any compliance period specified in Nasdaq Rule 5810(c)(3)(A) because we effected two reverse stock splits over the prior two-year period with a cumulative ratio of more than 250 shares to one. If we receive a deficiency notice from Nasdaq, we will have the opportunity to appeal the determination to a Hearings Panel. A hearing request will stay the suspension of our shares and we expect that our stock would remain listed pending the Hearing Panel's decision. There can be no assurance that, if we do appeal Nasdaq's determination to the Panel, such appeal would be successful.

A delisting of our common stock and our inability to list on another national securities market could negatively impact us by: (i) reducing the liquidity and market price of our common stock; (ii) reducing the number of investors willing to hold or acquire our common stock, which could negatively impact our ability to raise equity financing; (iii) limiting our ability to use certain registration statements to offer and sell freely tradable securities, thereby limiting our ability to access the public capital markets; and (iv) impairing our ability to provide equity incentives to our employees.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, including the documents that we incorporate by reference herein and therein, and any free writing prospectus that we have authorized for use in connection with this offering, contains forward-looking statements within the meaning of Section 27A of the Securities Act, Section 21E of the Exchange Act and the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts contained in this prospectus supplement and the accompanying prospectus are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. These forward-looking statements include, but are not limited to, statements about:

- our estimates regarding future results of operations, financial position, research and development costs, capital requirements, and our needs for additional financing;
 - how long we can continue to fund our operations with our existing cash and cash equivalents;
 - changes in market conditions, general economic conditions, and the banking sector, and potential constraints in accessing capital or credit if and when needed with favorable terms, if at all;
 - the potential impairment of our intangible assets on our condensed consolidated balance sheet, which could lead to material impairment charges in the future;
- our ability to repay indebtedness;
- potential delays and uncertainties in our anticipated timelines and milestones and additional costs associated with the impact of the residual effects of the COVID-19 pandemic and the evolving events in Israel and Gaza on our clinical trial operations;
 - the costs, timing, and results, of our preclinical studies and clinical trials, as well as the number of required trials for regulatory approval and the criteria for success in such trials;
 - legal and regulatory developments in the United States, or U.S., and foreign countries, including any actions or advice that may affect the design, initiation, timing, continuation, progress or outcome of clinical trials or result in the need for additional clinical trials;
 - the difficulties and expenses associated with obtaining and maintaining regulatory approval of our product candidates, and the indication and labeling under any such approval;
 - risks related to manufacturing active pharmaceutical ingredients, drug product, and other materials we need;
 - delays, interruptions or failures in the manufacture and supply of our product candidates;
 - the plans of our licensee, Lee’s Pharmaceutical (HK) Ltd., and its affiliate, Zhaoke Pharmaceutical (Hefei) Co. Ltd., and their ability to successfully source materials, execute necessary clinical and regulatory activities in a timely manner, if at all, to support development and commercialization of the licensed product candidates;
 - the performance of third parties, both foreign and domestic, upon which we depend, including contract research organizations, contract manufacturing organizations, contract laboratories, and independent contractors;
 - the size and growth of the potential markets for our product candidates, the regulatory requirements in such markets, the rate and degree of market acceptance of our product candidates, and our ability to serve those markets;
 - the success of competing therapies and products that are or may become available;
 - our ability to limit our exposure under product liability lawsuits;
 - our ability to obtain and maintain intellectual property protection for our product candidates;
 - recently enacted and future legislation, including but not limited to, the Inflation Reduction Act of 2022, regarding the healthcare system in the U.S. or the healthcare systems in foreign jurisdictions;
 - our ability to recruit or retain key scientific, commercial or management personnel or to retain our executive officers;

- our ability to secure electronically stored work product, including clinical data, analyses, research, communications, and other materials necessary to gain regulatory approval of our product candidates, including those acquired from third parties, and assure the integrity, proper functionality, and security of our internal computer and information systems and prevent or avoid cyber-attacks, malicious intrusion, breakdown, destruction, security incidents, data privacy violations, or other significant disruption;
- economic uncertainty resulting from inflation and the rapid increase in interest rates, including concerns involving liquidity, defaults or other non-performance by financial institutions;
- economic uncertainty resulting from geopolitical instability, including the ongoing military conflict between Russia and Ukraine, the People’s Republic of China and the Republic of China (Taiwan), and the evolving events in Israel and Gaza; and
- other risks and uncertainties, including those described under the caption “Risk Factors” in this prospectus supplement, the accompanying prospectus or in the documents incorporated by reference herein.

We have based these forward-looking statements largely on our current expectations, estimates, forecasts, and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy, and financial needs. In light of the significant uncertainties in these forward-looking statements, you should not rely upon forward-looking statements as predictions of future events. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus supplement, we cannot guarantee that the future results, levels of activity, performance, or events and circumstances reflected in the forward-looking statements will be achieved or occur at all. You should refer to the section entitled “Risk Factors” in this prospectus supplement and the risk factors set forth in the documents incorporated by reference in this prospectus supplement and accompanying prospectus for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

You should read this prospectus supplement and the documents incorporated by reference in this prospectus supplement and accompanying prospectus completely and with the understanding that our actual future results, performance or achievements may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

USE OF PROCEEDS

We may receive up to \$27,243,504 in aggregate gross proceeds under the Purchase Agreement pursuant to this prospectus supplement from any sales we make to Seven Knots pursuant to the Purchase Agreement. We intend to use net proceeds that we receive under the Purchase Agreement for the redemption of our Series C Preferred Stock, working capital and other general corporate purposes. However, as of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses, and the respective amounts we may allocate to those uses, for any net proceeds we receive.

Our expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the date of this prospectus supplement, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual expenditures and the extent of our preclinical, clinical and future development activities may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from our planned clinical trials, our ability to take advantage of expedited programs or to obtain regulatory approval for product candidates, the timing and costs associated with the manufacture and supply of product candidates for clinical development or commercialization and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

Pending the uses described above, we plan to invest the net proceeds from this offering in short-term, interest-bearing obligations, investment-grade instruments or other securities.

DILUTION

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

Net tangible book value per share represents our total tangible assets, less total liabilities, divided by the number of shares of our common stock outstanding.

As of June 30, 2024, our historical net tangible book value was \$(14.8) million, or \$(25.01) per share, based on 591,909 shares of common stock outstanding as of June 30, 2024. Our pro forma net tangible book value as of June 30, 2024 was approximately \$(5.8) million, or \$(0.67) per share, after giving effect to (i) the issuance of 17,540 shares of Series C Preferred Stock and warrants to purchase 3,778,925 shares of common stock in July 2024, or the July Private Placements, (ii) the conversion of 4,220 shares of Series C Preferred Stock into 2,635,946 shares of common stock, or the Series C Conversions and (iii) the issuance of 5,499,273 shares under the Purchase Agreement, resulting in net proceeds of \$5.3 million after the payment of certain offering expenses and redemption payments relating to the Series C Preferred Stock, or the ELOC Issuances.

After giving effect to the sale of common stock pursuant to this prospectus supplement in the aggregate amount of \$27,243,504 at an assumed offering price of \$0.8637 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on October 25, 2024, and after deducting estimated aggregate offering expenses payable by us, our pro forma as adjusted net tangible book value as of June 30, 2024 would have been \$21.4 million, or \$0.53 per share of common stock. This represents an immediate increase in the net tangible book value of \$25.54 per share to our existing stockholders and an immediate dilution in net tangible book value of \$0.33 per share to new investors. The following table illustrates this per share dilution:

Assumed public offering price per share		\$	0.8637
Net tangible book value per share as of June 30, 2024	\$	(25.01)	
Pro Forma increase in net tangible book value per share attributable to the July Private Placements, the Series C Conversions and the ELOC Issuances	\$	24.34	
Increase in net tangible book value per share attributable to this offering	\$	1.20	
Pro forma as adjusted net tangible book value per share after this offering	\$		0.53
Dilution per share to new investors in this offering	\$		0.33

The information above assumes for illustrative purposes that an aggregate of 31,542,786 shares of our common stock were sold during the term of the offering at a sales price of \$0.8637 per share, which is the closing price of our common stock as reported on Nasdaq on October 25, 2024 for aggregate gross proceeds of \$27,243,504. The shares sold in this offering will be sold from time to time at various prices. An increase of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$0.8637 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$27,243,504 is sold at that price, would result in an adjusted net tangible book value per share after the offering of \$0.75 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$0.61 per share, after deducting estimated aggregate offering expenses payable by us. A decrease of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$0.8637 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$27,243,504 is sold at that price, would result in an adjusted net tangible book value per share after the offering of \$0.26 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$0.10 per share, after deducting estimated aggregate offering expenses payable by us.

The above discussion and table are based on 591,909 shares of common stock outstanding as of June 30, 2024, and excludes:

- 9,589,419 shares of common stock issuable upon the conversion of shares of Series C Preferred Stock outstanding as of October 25, 2024;
- 4,037,055 shares of our common stock issuable upon the exercise of the warrants outstanding as of October 25, 2024, at a weighted-average exercise price of \$18.73 per share;
- 14,858 shares of our common stock issuable upon the exercise of stock options outstanding as of October 25, 2024, at a weighted-average exercise price of \$1,551.47 per share;
- 8,107 shares of common stock issuable upon the vesting and settlement of restricted stock units outstanding as of October 25, 2024; and
- 503 shares of common stock available for future grant as of October 25, 2024 under our 2020 Equity Incentive Plan.

SEVEN KNOTS TRANSACTION

Overview

On June 26, 2024, we entered into the Purchase Agreement with Seven Knots, pursuant to which Seven Knots has agreed to purchase from us, from time to time, in our sole discretion, in accordance with the terms thereof, shares of our common stock having a total maximum aggregate purchase price of \$35.0 million, upon the terms and subject to the conditions and limitations set forth in the Purchase Agreement.

In accordance with our obligations under the Purchase Agreement and the Registration Rights Agreement, dated as of June 26, 2024, between us and Seven Knots, or the Registration Rights Agreement, pursuant to which we agreed to provide Seven Knots with customary registration rights related to the shares issued under the Purchase Agreement, on August 23, 2024, we filed a registration statement on Form S-1, which was declared effective by the SEC on September 3, 2024 (SEC File No. 333-281755), or the Form S-1, that covered the resale of up to 10,679,758 shares of our common stock under the Purchase Agreement. The 10,679,758 shares of our common stock, or the Registered Shares, represented: (i) 10,574,018 shares issuable to Seven Knots, from time to time from and after the Commencement Date upon the terms and subject to the conditions and limitations of the Purchase Agreement, subject to applicable stock exchange rules, or the Registered Purchase Shares; and (ii) 105,740 shares that were issuable upon the conversion of the outstanding unpaid principal balance, together with all accrued and unpaid interest of a commitment note issued to Seven Knots as consideration for its execution and delivery of the Purchase Agreement, or the Note Shares.

Under the applicable Nasdaq rules, we were prohibited from issuing to Seven Knots under the Purchase Agreement more than 19.99% of the shares of the common stock outstanding immediately prior to the execution of the Purchase Agreement, or the Exchange Cap, until we obtained stockholder approval to issue shares of common stock in excess of the Exchange Cap in accordance with applicable Nasdaq rules, or the Stockholder Approval. We obtained Stockholder Approval at our 2024 annual meeting of stockholders on September 24, 2024.

In all cases, we may not issue or sell any shares of common stock to Seven Knots under the Purchase Agreement which, when aggregated with all other shares of our common stock then beneficially owned by Seven Knots and its affiliates, would result in Seven Knots beneficially owning more than 4.99% of the outstanding shares of our common stock.

The Purchase Agreement and Registration Rights Agreement contain customary registration rights, representations, warranties, conditions and indemnification obligations by each party. The representations, warranties and covenants contained in such agreements were made only for purposes of such agreements and as of specific dates, were solely for the benefit of the parties to such agreements and are subject to certain important limitations.

Purchase Agreement

Pursuant to the Purchase Agreement, Seven Knots has agreed to purchase from us, from time to time, in our sole discretion up to \$35.0 million of shares of our common stock. The shares of our common stock that may be issued under the Purchase Agreement may be sold by us to Seven Knots at our discretion from time to time from the Commencement Date until the earliest to occur of (i) the first day of the month next following the 24-month anniversary of the Commencement Date, (ii) the date on which Seven Knots shall have purchased the Commitment Amount, (iii) the date on which our common stock fails to be listed or quoted on Nasdaq or any Eligible Market (as defined in the Purchase Agreement), (iv) the thirtieth trading day next following the date on which, pursuant to or within the meaning of any bankruptcy law, we commence a voluntary case or any person commences a proceeding against us, in each case that is not discharged or dismissed prior to such thirtieth trading day, and (v) the date on which, pursuant to or within the meaning of any bankruptcy law, a custodian is appointed for us or for all or substantially all of our property, or we make a general assignment for the benefit of our creditors.

Purchases of Shares of our Common Stock Under the Purchase Agreement

During the term described above, on any business day on which the closing sale price of the common stock is equal to or greater than \$0.50, or the Fixed Purchase Date, we will have the right, but not the obligation, from time to time at our sole discretion, to direct Seven Knots, by delivery of an irrevocable written notice, or a Fixed Purchase Notice, to purchase a number of shares of our common stock, or the Fixed Purchase, up to the lesser of 10,000 shares of common stock or \$50,000, or the Fixed Purchase Maximum Amount, at a purchase price equal to the lesser of 95% of (i) the daily VWAP (as defined below) of the common stock for the five trading days immediately preceding the applicable Fixed Purchase Date and (ii) the lowest trading price of a share of common stock during the full trading day on the trading day immediately following the applicable Fixed Purchase Date, or the Fixed Purchase Price.

In addition, at any time from and after the Commencement Date, on any business day on which the closing sale price of the common stock is equal to or greater than \$0.50 and such business day is also the Fixed Purchase Date for a Fixed Purchase of an amount of shares of common stock not less than the applicable Fixed Purchase Maximum Amount, we may also direct Seven Knots, by delivery of an irrevocable written notice, or a VWAP Purchase Notice, to purchase, on the immediately following business day, or the VWAP Purchase Date, an additional number of shares of common stock in an amount equal to the lesser of (i) 300% of the number of shares of common stock directed by us to be purchased by Seven Knots for the applicable Fixed Purchase and (ii) 30% of the trading volume in our common stock on Nasdaq during the applicable VWAP Purchase Period (as defined in the Purchase Agreement) on the applicable VWAP Purchase Date, or the VWAP Purchase, at a purchase price equal to the lesser of 90% of (i) the closing sale price of the common stock on the applicable VWAP Purchase Date and (ii) the VWAP during the applicable VWAP Purchase Period, or the VWAP Purchase Price.

At any time from and after the Commencement Date, on any business day that is also the VWAP Purchase Date for a VWAP Purchase, we may also direct Seven Knots, by delivery of an irrevocable written notice, or an Additional VWAP Purchase Notice and, together with a Fixed Purchase Notice and a VWAP Purchase Notice, a Purchase Notice, to purchase, on the same business day, or the Additional VWAP Purchase Date and, together with a Fixed Purchase Date and a VWAP Purchase Date, the Purchase Dates, an additional number of shares of common stock in an amount equal to the lesser of (i) 300% of the number of shares of common stock directed by us to be purchased by Seven Knots for the applicable Fixed Purchase and (ii) 30% of the trading volume in our common stock on Nasdaq during the applicable Additional VWAP Purchase Period (as defined in the Purchase Agreement) on the applicable VWAP Purchase Date, or an Additional VWAP Purchase, and together with a Fixed Purchase and a VWAP Purchase, the Purchases, at a purchase price equal to the lesser of 90% of (i) the closing sale price of the common stock on the applicable Additional VWAP Purchase Date and (ii) the VWAP during the Additional VWAP Purchase Period (as defined in the Purchase Agreement).

For purposes of the Purchase Agreement, “VWAP” is, for the common stock for a specified period, the dollar volume-weighted average price for the common stock on Nasdaq, for such period, as reported by Bloomberg through its “AQR” function. All such determinations shall be appropriately adjusted for any sales of shares of common stock through block transactions, any reorganization, non-cash dividend, stock split, reverse stock split, stock combination, recapitalization or other similar transaction during such period.

Conditions Precedent to Commencement

Our right to deliver Purchase Notices under the Purchase Agreement and Seven Knots’ obligation to accept such Purchase Notices, are subject to the conditions precedent thereto set forth in the Purchase Agreement, which conditions include, among others, the following:

- the accuracy in all material respects of our representations and warranties included in the Purchase Agreement;
- us having performed, satisfied and complied in all material respects with all covenants, agreements and conditions required by the Purchase Agreement and the Registration Rights Agreement to be performed, satisfied or complied with by us;
- the absence of any material misstatement or omission in (i) the prospectus covering the Registered Shares and (ii) this prospectus supplement and accompanying prospectus;
- all reports, schedules, registrations, forms, statements, information and other documents required to have been filed by us with the SEC pursuant to the reporting requirements of the Exchange Act having been so filed;
- the common stock not having been suspended by the SEC, Nasdaq or FINRA and there not having been imposed any suspension of, or restriction on, accepting additional deposits of common stock by The Depository Trust Company;
- no condition, occurrence, state of facts or event constituting a Material Adverse Effect (as defined in the Purchase Agreement) shall have occurred and be continuing;
- customary compliance with laws and bankruptcy-related conditions; and
- the receipt by Seven Knots of customary legal opinions, as required under the Purchase Agreement.

Termination of the Purchase Agreement

Unless earlier terminated as provided in the Purchase Agreement, the Purchase Agreement will terminate automatically on the earliest to occur of:

- the first day of the month next following the 24-month anniversary of the Commencement Date;
- the date on which Seven Knots shall have purchased the Commitment Amount;
- the date on which our common stock fails to be listed or quoted on Nasdaq or any Eligible Market (as defined in the Purchase Agreement);
- the thirtieth trading day next following the date on which, pursuant to or within the meaning of any bankruptcy law, we commence a voluntary case or any person commences a proceeding against us, in each case that is not discharged or dismissed prior to such thirtieth trading day; and
- the date on which, pursuant to or within the meaning of any bankruptcy law, a custodian is appointed for us or for all or substantially all of our property, or we make a general assignment for the benefit of our creditors.

We and Seven Knots may terminate the Purchase Agreement at any time by mutual written consent. Seven Knots also has the right to terminate the Purchase Agreement upon 10 trading days’ prior written notice to us, but only upon the occurrence of certain customary events as listed in the Purchase Agreement. No termination of the Purchase Agreement by us or by Seven Knots will become effective prior to the first trading day immediately following the date on which any pending Purchase has been fully settled in accordance with the terms and conditions of the Purchase Agreement, and will not affect any of our respective rights and obligations under the Purchase Agreement with respect to any pending Purchase, and both we and Seven Knots have agreed to complete our respective obligations with respect to any such pending Purchase under the Purchase Agreement.

Prohibition of “Dilutive Issuances” During Pending Purchases

Subject to certain exceptions, during any Reference Period (as defined in the Purchase Agreement) with respect to a Purchase, we are limited in our ability to issue any common stock, or any securities convertible into common stock, at an effective price per share of common stock less than the applicable Purchase Price to be sold to Seven Knots in the applicable Purchase to which such Reference Period relates.

No Short-Selling or Hedging

Seven Knots has agreed that neither it nor any entity managed or controlled by it, will engage in, directly or indirectly, any (i) “short sale” (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the common stock or (ii) hedging transaction, which, with respect to items (i) and (ii), establishes a net short position with respect to the common stock, during the term of the applicable Purchase Agreement.

Effect of Sales of our Common Stock under the Purchase Agreement on our Stockholders

The common stock being registered for resale in this offering may be issued and sold by us to Seven Knots from time to time at our discretion, during the terms described above. The resale by Seven Knots of a significant quantity of shares 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. Sales of our common stock to Seven Knots under the Purchase Agreement will be determined by us in our sole discretion, subject to the satisfaction of certain conditions in the Purchase Agreement, and will depend upon market conditions and other factors. After Seven Knots has acquired shares from us under the Purchase Agreement, Seven Knots may resell all, some or none of such common stock at any time or from time to time in its discretion and at different prices. As a result, investors who purchase common stock from Seven Knots in this offering at different times will likely pay different prices for those shares of common stock, and so may experience different levels of dilution and in some cases substantial dilution and different outcomes in their investment results. See “*Risk Factors-Risks Related to the ELOC-Investors who buy shares of common stock from Seven Knots at different times will likely pay different prices.*”

Investors may experience a decline in the value of the common stock they purchase from Seven Knots in this offering as a result of future sales made by us to Seven Knots at prices lower than the prices such investors paid for their shares in this offering. In addition, if we sell a substantial number of shares of common stock to Seven Knots under the Purchase Agreement, or if investors expect that we will do so, the actual sales of common stock or the mere existence of our arrangement with Seven Knots may 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 such sales.

Because the purchase price per share to be paid by Seven Knots for the common stock that we elect to sell to Seven Knots under the Purchase Agreement will fluctuate based on the market prices of our common stock at the time we make such election, as of the date of this prospectus supplement, it is not possible for us to predict the number of shares of common stock that we will sell to Seven Knots under the Purchase Agreement, the actual purchase price per share to be paid by Seven Knots for those shares of common stock, or the actual gross proceeds to be raised by us from those sales. As of October 25, 2024, there were 8,746,128 shares of common stock outstanding. If 31,542,786 shares of our common stock offered hereby, which assumes the sale of such shares at a price of \$0.8637, which was the closing price of our common stock on the Nasdaq Capital Market on October 25, 2024, such shares would represent approximately 78% of the total number of shares of our common stock outstanding. The actual number of shares of our common stock issuable will vary depending on the then-current market price of shares of our common stock sold to Seven Knots in this offering.

The number of shares of common stock ultimately offered for sale by Seven Knots for resale under this prospectus supplement is dependent upon the number of shares of common stock we sell to Seven Knots under the Purchase Agreement. Further, after Seven Knots has acquired such shares under the Purchase Agreement, Seven Knots may resell all, some or none of such shares of common stock at any time or from time to time in its discretion and at different prices.

The issuance of our shares of common stock to Seven Knots pursuant to the Purchase Agreement will not affect the rights or privileges of our existing stockholders, except that the economic and voting interests of each of our existing stockholders will be diluted. Although the number of shares of common stock that our existing stockholders own will not decrease, the shares of common stock owned by our existing stockholders will represent a smaller percentage of our total outstanding shares of common stock after any such issuance.

The following table sets forth the number of shares of common stock to be issued to Seven Knots under the Purchase Agreement registered hereunder at varying purchase prices:

Assumed Purchase Price Per Share	Total Number of Seven Knots Purchase Shares to be Issued(1)	Percentage of Outstanding Common Stock After Giving Effect to the Issuance of Seven Knots Purchase Shares to Seven Knots(2)	Proceeds from the Sale of Seven Knots Purchase Shares to Seven Knots
\$ 0.50	54,487,009	86%	\$ 27,243,504
\$ 0.8637(3)	31,542,786	78%	\$ 27,243,504
\$ 1.00	27,243,504	76%	\$ 27,243,504
\$ 2.00	13,621,752	61%	\$ 27,243,504
\$ 3.00	9,081,168	51%	\$ 27,243,504
\$ 4.00	6,810,876	44%	\$ 27,243,504

(1) Includes the total number of shares which we would have sold under the Purchase Agreement at the corresponding assumed average purchase price set forth in the first column, up to the aggregate purchase price of \$27,243,504, without regard for the limitation of 4.99% of our outstanding shares of common stock that Seven Knots may beneficially own under the Purchase Agreement.

(2) The denominator is based on 8,746,128 shares outstanding as of October 25, 2024. The numerator is based on the number of shares issuable under the Purchase Agreement (that are the subject of this offering) at the corresponding assumed average purchase price set forth in the first column.

(3) The closing sale price of our common stock on The Nasdaq Capital Market on October 25, 2024.

PLAN OF DISTRIBUTION

Pursuant to this prospectus supplement and the accompanying prospectus, we are offering up to \$27,243,504 in shares of our common stock pursuant to the Purchase Agreement. This prospectus supplement and the accompanying prospectus also cover the resale of these shares by Seven Knots to the public.

The shares may be sold or distributed from time to time by Seven Knots 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 sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of our common stock offered by this prospectus supplement could be effected in one or more of the following methods:

- ordinary brokers' transactions;
- transactions involving cross or block trades;
- through brokers, dealers, or underwriters who may act solely as agents;
- "at the market" into an existing market for our common stock;
- 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.

In order to comply with the securities laws of certain states, if applicable, the shares may be sold only through registered or licensed brokers or dealers. In addition, in certain states, the shares may not be sold unless they have been registered or qualified for sale in the state or an exemption from the state's registration or qualification requirement is available and complied with.

Seven Knots is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act.

Seven Knots has informed us that it intends to use one or more registered broker-dealers to effectuate all sales, if any, of our common stock that it has acquired and may in the future acquire from us pursuant to the Purchase Agreement. Such sales will be made at prices and at terms then prevailing or at prices related to the then current market price. Each such registered broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. Seven Knots has informed us that each such broker-dealer will receive commissions from Seven Knots that will not exceed customary brokerage commissions.

Brokers, dealers, underwriters or agents participating in the distribution of our common stock offered by this prospectus supplement may receive compensation in the form of commissions, discounts, or concessions from the purchasers, for whom the broker-dealers may act as agent, of the shares sold by Seven Knots through this prospectus. The compensation paid to any such particular broker-dealer by any such purchasers of our common stock sold by Seven Knots may be less than or in excess of customary commissions. Neither we nor Seven Knots can presently estimate the amount of compensation that any agent will receive from any purchasers of our common stock sold by Seven Knots.

We know of no existing arrangements between Seven Knots or any other stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of our common stock offered by this prospectus supplement.

We will pay the expenses incident to the registration under the Securities Act of the offer and sale of our common stock covered by this prospectus supplement by Seven Knots. As consideration for its irrevocable commitment to purchase our common stock under the Purchase Agreement, we issued to Seven Knots 105,740 shares of common stock as Note Shares in accordance with the Purchase Agreement. We also paid Seven Knots \$25,000 in cash as reimbursement for the reasonable, out-of-pocket expenses incurred by Seven Knots, including the legal fees and disbursements of Seven Knots' legal counsel, in connection with its due diligence investigation of the Company and in connection with the preparation, negotiation and execution of the Purchase Agreement. See "*The Seven Knots Transaction*" for more information.

We also have agreed to indemnify Seven Knots and certain other persons against certain liabilities in connection with the offering of our common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Seven Knots has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Seven Knots specifically for use in this prospectus supplement or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers, and controlling persons, we have been advised that in the opinion of the SEC this indemnification is against public policy as expressed in the Securities Act and is therefore, unenforceable.

Seven Knots has represented to us that at no time prior to the date of the Purchase Agreement has Seven Knots or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of our common stock or any hedging transaction, which establishes a net short position with respect to our common stock. Seven Knots has agreed that during the term of the Purchase Agreement, neither Seven Knots, nor any of its agents, representatives or affiliates will enter into or effect, directly or indirectly, any of the foregoing transactions.

We have advised Seven Knots that it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes Seven Knots, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the securities offered by this prospectus.

This offering will terminate on the date that all of our common stock offered by this prospectus supplement have been sold by Seven Knots.

Our common stock is currently listed on the Nasdaq Capital Market under the symbol “WINT.”

LEGAL MATTERS

The validity of the shares of our common stock offered hereby will be passed upon for us by Goodwin Procter, LLP, Philadelphia, Pennsylvania.

EXPERTS

The consolidated balance sheets of Windtree Therapeutics, Inc. and Subsidiaries as of December 31, 2023 and 2022, and the related consolidated statements of operations, changes in mezzanine equity and stockholders' equity, and cash flows for each of the years then ended have been audited by EisnerAmper LLP, independent registered public accounting firm, as stated in their report, which is incorporated herein by reference, which report includes an explanatory paragraph about the existence of substantial doubt concerning our ability to continue as a going concern. Such financial statements have been incorporated herein by reference in reliance on the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

We also maintain a website at <https://ir.windtreetx.com/filings/sec-filings>, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus supplement or the accompanying prospectus, and the inclusion of our website address in this prospectus supplement and the accompanying prospectus is an inactive textual reference only.

This prospectus supplement and the accompanying prospectus are a part of a registration statement that we filed with the SEC and does not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Statements contained in this prospectus supplement and the accompanying prospectus about other documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters.

INFORMATION INCORPORATED BY REFERENCE

The SEC's rules allow us to "incorporate by reference" information into this prospectus supplement and the accompanying prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus supplement and the accompanying prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus supplement or the accompanying prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus supplement incorporates by reference the documents set forth below that have previously been filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on April 16, 2024;
- our Quarterly Reports on Form 10-Q for the quarters ended March 30, 2024 and June 30, 2024, filed with the SEC on May 15, 2024 and August 19, 2024, respectively;
- our Current Reports on Form 8-K, filed with the SEC on January 17, 2024, January 22, 2024, January 25, 2024, January 31, 2024, February 16, 2024, April 8, 2024, April 10, 2024, April 19, 2024, April 23, 2024, July 1, 2024, July 10, 2024, July 22, 2024, July 29, 2024, August 14, 2024, September 13, 2024, September 24, 2024, September 25, 2024, September 30, 2024, October 1, 2024 and October 4, 2024;
- the description of our common stock contained in Exhibit 4.18 our 2023 Annual Report on Form 10-K, including any amendments or reports filed for the purposes of updating this description.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have "furnished" to the SEC pursuant to the Exchange Act shall be incorporated by reference into this prospectus supplement or the accompanying prospectus.

We also incorporate by reference into this prospectus supplement and the accompanying prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to 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. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements on Schedule 14A.

We will provide to each person, including any beneficial owner, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference, including exhibits that are specifically incorporated by reference into such documents. You should direct any requests for documents to Windtree Therapeutics, Inc., 2600 Kelly Road, Suite 100., Warrington, Pennsylvania 18976, Attn: Corporate Secretary.

You also may access these filings on our website at <https://ir.windtreetx.com/filings/sec-filings>. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus). You may also access these filings at the SEC's website at www.sec.gov.

PROSPECTUS



\$100,000,000

Common Stock

Preferred Stock

Warrants

Debt Securities

Units

Subscription Rights

170,000 Shares

Common Stock Issuable Upon the Exercise of Warrants

Offered by Selling Stockholders

We may offer and sell up to \$100,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities.

Each time we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. The supplement may also add, update, or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers, or agents, or directly to purchasers, or through a combination of these methods. If any underwriters, dealers, or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission, or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled “About this Prospectus” and “Plan of Distribution” for more information. No securities may be sold by us without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

As of December 22, 2021, the aggregate market value of our outstanding common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 was approximately \$39.2 million, which is based on 20,766,169 shares of common stock held by non-affiliates as of such date and a price of \$1.89 per share, the closing price of our common stock on October 25, 2021. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement of which this prospectus is a part with a value of more than one-third of the aggregate market value of our common stock held by non-affiliates in any 12-month period, so long as the aggregate market value of our common stock held by non-affiliates is less than \$75,000,000. We have not sold any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to, and including, the date of this prospectus.

In addition, National Securities Corporation and any of its pledgees, donees, transferees, or other successors in interest, who we refer to in this prospectus as the selling stockholders, may offer and sell up to 170,000 shares of our common stock issuable upon the exercise of certain common stock purchase warrants from time to time under this prospectus. We will not receive any of the proceeds from the sale of the shares of our common stock by the selling stockholders.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE “RISK FACTORS” ON PAGE 6 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT OR ANY DOCUMENT INCORPORATED BY REFERENCE THEREIN CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

The selling stockholders identified in this prospectus, or their permitted transferees or other successors-in-interest, may offer the shares of our common stock from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices, or at privately negotiated prices. We provide additional information about how the selling stockholders may sell their shares of common stock in the section entitled “Plan of Distribution” beginning on page 26 of this prospectus. We will not be paying any underwriting discounts or selling commissions in connection with any offering of the common stock by the selling stockholders under this prospectus.

Our common stock is listed on the Nasdaq Capital Market under the symbol “WINT.” On December 22, 2021, the last reported sale price of our common stock on the Nasdaq Capital Market was \$1.53 per share.

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 date of this prospectus is January 3, 2022.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a “shelf” registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to a total dollar amount of \$100,000,000 as described in this prospectus. In addition, the selling stockholders may from time to time sell up to an aggregate amount of 170,000 shares of our common stock issuable upon the exercise of certain common stock purchase warrants in one or more offerings.

This prospectus provides you only with a general description of the securities that we may offer. Each time that we or the selling stockholders offer and sell securities, we or the selling stockholders will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement or free writing prospectus, as applicable, may also add, update, or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or free writing prospectus, you should rely on the prospectus supplement or free writing prospectus, as applicable. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement (and any applicable free writing prospectuses), together with the additional information described under the heading “Where You Can Find More Information.”

Neither we nor the selling stockholders have authorized anyone to provide you with any information or to make any representations other than those contained in, or incorporated by reference in, this prospectus, any applicable prospectus supplement, or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover, that the information appearing in any applicable free writing prospectus is accurate only as of the date of that free writing prospectus, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations, and prospects may have changed since those dates.

When we refer to “Windtree,” “we,” “our,” “us,” and the “Company” in this prospectus, we mean Windtree Therapeutics, Inc., and its consolidated subsidiaries unless otherwise specified. References to the “selling stockholders” refer to the stockholders listed herein under the heading “Selling Stockholders” and their respective pledgees, donees, permitted transferees, assignees, successors and others who later come to hold any of the selling stockholders’ interests in our securities other than through a public sale. When we refer to “you,” we mean the potential holders of the applicable series of securities.

Solely for convenience, tradenames referred to in this prospectus appear without the ® and ™ symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or that the applicable owner will not assert its rights, to these tradenames.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of the registration statement on Form S-3 filed with the SEC under the Securities Act of 1933, as amended, or the Securities Act, and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements, or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated herein by reference for a copy of such contract, agreement, or other document.

We are currently subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and in accordance therewith files periodic reports, proxy statements, and other information with the SEC. Our SEC filings are available to you on the SEC's website at www.sec.gov and in the "Investors" section of our website at www.windtreetx.com. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this prospectus.

INCORPORATION BY REFERENCE

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on [March 29, 2021](#), and the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2020 from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on [April 30, 2021](#);
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2021, June 30, 2021, and September 30, 2021 filed with the SEC on [May 13, 2021](#), [August 5, 2021](#), and [November 10, 2021](#), respectively;
- our Current Reports on Form 8-K (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items), filed with the SEC on [February 9, 2021](#), [March 22, 2021](#), [March 24, 2021](#), [March 29, 2021](#), [April 30, 2021](#), [May 13, 2021](#), [June 16, 2021](#), [August 5, 2021](#), [September 20, 2021](#), [October 18, 2021](#), and [November 10, 2021](#); and
- The description of our common stock included in our Form 8-A filed with the SEC on [May 15, 2020](#), including any amendments or reports filed for the purpose of updating such description.

All reports and other documents we subsequently file (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) pursuant to Section 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus by writing or telephoning us at the following address:

Windtree Therapeutics, Inc.
2600 Kelly Road, Suite 100
Warrington, Pennsylvania 18976
(215) 488-9300
Attention: Chief Financial Officer

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus or any accompanying prospectus supplement.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any applicable prospectus supplement and the documents incorporated by reference may contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act about us and our subsidiaries. These forward-looking statements are intended to be covered by the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Forward-looking statements are not statements of historical fact, and can be identified by the use of forward-looking terminology such as “believes,” “expects,” “may,” “will,” “could,” “should,” “projects,” “plans,” “goal,” “targets,” “potential,” “estimates,” “pro forma,” “seeks,” “intends” or “anticipates” or the negative thereof or comparable terminology. Forward-looking statements include, but are not limited to, statements concerning:

- our estimates regarding future results of operations, financial position, research and development costs, capital requirements, and our needs for additional financing;
- how long we can continue to fund our operations with our existing cash and cash equivalents;
- delays in our anticipated timelines and milestones and additional costs associated with the ongoing novel coronavirus, or COVID-19, pandemic and the overall impact of the COVID-19 pandemic on our business, financial condition and results of operations;
- the costs, timing, safety and efficacy, and results of our preclinical studies and clinical trials, as well as the number of required trials for regulatory approval and the criteria for success in such trials;
- legal and regulatory developments in the United States and foreign countries, including any actions or advice that may affect the design, initiation, timing, continuation, progress or outcome of clinical trials or result in the need for additional clinical trials;
- the difficulties and expenses associated with obtaining and maintaining regulatory approval of our product candidates, and the indication and labeling under any such approval;
- our plans and the plans of our licensee, Lee’s Pharmaceutical (HK) Ltd. in Asia and our respective abilities to successfully execute necessary clinical and business development activities in a timely manner, if at all, to support development and commercialize our product candidates;
- risks related to manufacturing active pharmaceutical ingredients, drug product, medical devices, and other materials we need;
- delays, interruptions, or failures in the manufacture and supply of our product candidates;
- the performance of third parties, both foreign and domestic, upon which we depend, including contract research organizations, contract manufacturing organizations, contractor laboratories, and independent contractors;
- the size and growth of the potential markets for our product candidates, the regulatory requirements in such markets, the rate and degree of market acceptance of our product candidates, and our ability to serve those markets;
- the success of competing therapies and products that are or become available;
- our ability to limit our exposure under product liability lawsuits;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- recently enacted and future legislation regarding the healthcare system in the United States;

- our ability to recruit or retain key scientific, commercial, or management personnel or to retain our executive officers;
- our ability to secure electronically stored work product, including clinical data, analyses, research, communications, and other materials necessary to gain regulatory approval of our product candidates, including those acquired from third parties, and assure the integrity, proper functionality and security of our internal computer and information systems and prevent or avoid cyber-attacks, malicious intrusion, breakdown, destruction, loss of data privacy, or other significant disruption; and
- the impact of the significant impairment of our intangible assets on our condensed consolidated balance sheet, and any future impairment charges that may be reported.

You should read this prospectus and the documents incorporated herein by reference completely and with the understanding that our actual future results may be materially different from what we currently expect. Our business and operations are and will be subject to a variety of risks, uncertainties, and other factors. Consequently, actual results and experience may materially differ from those contained in any forward-looking statements. Such risks, uncertainties, and other factors that could cause actual results and experience to differ from those projected include, but are not limited to, the risk factors discussed under the heading “Risk Factors” contained in this prospectus, any applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus.

You should assume that the information appearing in this prospectus, any accompanying prospectus supplement or related free writing prospectus and any document incorporated herein by reference herein and therein is accurate as of its date only. Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor 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. Unless legally required, we do not undertake any obligation to release publicly any revisions to such forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events.

ABOUT WINDTREE THERAPEUTICS, INC.

Company Overview

We are a clinical-stage, biopharmaceutical, and medical device company focused on the development of novel therapeutics intended to address significant unmet medical needs in important acute care markets. Our development programs are primarily focused on the treatment of acute cardiovascular and acute pulmonary diseases. Our lead product candidate, istaroxime, is a first-in-class, dual-acting agent being developed to improve cardiac function in patients with acute heart failure, or AHF, with a potentially differentiated safety profile from existing treatments. Istaroxime demonstrated significant improvement in both diastolic and systolic aspects of cardiac function and was generally well tolerated in two phase 2 clinical trials. Istaroxime has been granted Fast Track designation for the treatment of AHF by the U.S. Food and Drug Administration. Based on the profile observed in the phase 2 clinical studies in AHF, where istaroxime significantly improved cardiac function and systolic blood pressure in acute decompensated heart failure patients, we initiated a phase 2 global clinical study to evaluate istaroxime for the treatment of early cardiogenic shock, a severe form of heart failure characterized by very low blood pressure and risk for hypo-perfusion to critical organs. We believe that istaroxime has the potential to fulfill an unmet need in early cardiogenic shock. Our heart failure cardiovascular portfolio also includes sarco (endo) plasmic reticulum Ca²⁺ -ATPase 2a, or SERCA2a, activators which activate SERCA2a. This research program is evaluating these preclinical product candidates, including oral and intravenous SERCA2a activator heart failure compounds. As potential oral agents, these candidates would be developed for chronic heart failure. In addition, our cardiovascular drug product candidates include rostafuroxin, a novel medicine for the treatment of hypertension in patients with a specific genetic profile. We are pursuing potential licensing arrangements and/or other strategic partnerships and do not intend to advance this product without securing such an arrangement or partnership.

Corporate History and Information

We were incorporated in the State of Delaware on November 6, 1992. Our principal executive offices are located at 2600 Kelly Road, Suite 100, Warrington, Pennsylvania 18976, and our telephone number is (215) 488-9300. Our website address is www.windtreetx.com. The information contained in, or accessible through, our website does not constitute part of this prospectus. We have included our website address as an inactive textual reference only.

RISK FACTORS

Investing in any securities offered pursuant to this prospectus and any applicable prospectus supplement involves risks. You should carefully consider the risk factors included in our Annual Report on Form 10-K for the year ended December 31, 2020 and our Quarterly Reports on Form 10-Q for the three months ended March 31, 2021, three and six months ended June 30, 2021, and three and nine months ended September 30, 2021, as such risk factors may be updated in our other filings with the SEC pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act and the risk factors described in any applicable prospectus supplement and other filings we make with the SEC from time to time, which are incorporated by reference herein, before making an investment decision pursuant to this prospectus and any accompanying prospectus supplement. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities. Additional risks not known to us or that we believe are immaterial may also significantly impair our business operations and could result in a loss of all or part of your investment in the offered securities.

Risks Related to the Common Stock Offered by the Selling Stockholders

If the selling stockholders sell significant amounts of our common stock, or the perception exists that these sales could occur, such events could cause our common stock price to decline.

This prospectus covers the resale from time to time by the selling stockholders of up to 170,000 shares of our common stock issuable upon the exercise of certain common stock purchase warrants. Once the registration statement, of which this prospectus is a part, is declared effective, all of these shares will be available for resale in the public market. If the selling stockholders sell significant amounts of our common stock following the effectiveness of the registration statement of which this prospectus is a part, the market price of our common stock could decline. Further, the perception of these sales or issuances could impair our ability to raise additional capital through the sale of our equity securities.

None of the proceeds from the sale of shares of our common stock by the selling stockholders in this offering will be available to us.

We will not receive any proceeds from the sale of shares of our common stock by the selling stockholders in this offering. The selling stockholders will receive all proceeds from the sale of such shares. Consequently, none of the proceeds from such sale by the selling stockholders will be available to us for our use. See “Use of Proceeds.”

USE OF PROCEEDS

Except as set forth in any accompanying prospectus supplement, we intend to use the net proceeds from the sale of any securities offered under this prospectus for general corporate purposes unless the applicable prospectus supplement provides otherwise. General corporate purposes may include, and are not limited to, working capital, repayment of debt (including debt service, principal, and interest), acquisitions or investments in businesses, and capital expenditures.

Additional information on the use of net proceeds from the sale of securities that we may offer from time to time by this prospectus will be set forth in the applicable prospectus supplement relating to a particular offering.

We will not receive any proceeds from the sale of shares of our common stock by the selling stockholders. We will, however, receive the net proceeds of any common stock purchase warrants exercised for cash by the selling stockholders. We expect to use the proceeds received from the exercise of the common stock purchase warrants, if any, for general working capital purposes.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is not complete and may not contain all the information you should consider before investing in our capital stock. This description is summarized from, and qualified in its entirety by reference to, our Amended and Restated Certificate of Incorporation, as amended, or our Certificate of Incorporation, which has been publicly filed with the SEC. See “Where You Can Find More Information.” For a complete description, you should refer to our Certificate of Incorporation and Amended and Restated By-Laws, or our By-Laws, copies of which are incorporated by reference as exhibits to the registration statement of which this prospectus is a part.

General

Our Certificate of Incorporation authorizes 120,000,000 shares of common stock, \$0.001 par value per share, and 5,000,000 shares of preferred stock, \$0.001 par value per share.

Common Stock

As of December 22, 2021, there were 28,268,926 shares of our common stock issued and outstanding. Subject to any preferential rights of any preferred stock created by our board of directors, or the Board, holders of our common stock are entitled to such dividends, if any, as our Board may declare from time to time out of funds that we can legally use to pay dividends.

Holders of our common stock are entitled to one vote for each share of common stock and do not have any right to cumulate votes in the election of directors. Upon our liquidation, dissolution or winding-up, holders of our common stock will be entitled to receive on a proportionate basis any assets remaining after provision for payment of creditors and after payment of any liquidation preferences to holders of preferred stock. Holders of our common stock have no preemptive rights and no conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to our common stock. All the outstanding shares of common stock are, and the shares offered by this prospectus, when issued and paid for, will be, validly issued, fully paid and nonassessable. The rights and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may issue.

Preferred Stock

Our Board may divide the preferred stock into any number of series, fix the designation and number of shares of each such series, and determine or change the designation, relative rights, preferences and limitations of any series of preferred stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control and may adversely affect the market price of the common stock and the voting and other rights of the holders of our common stock.

Common Stock Warrants

March 2021 Warrants

On March 25, 2021, we completed a registered public offering, or the March 2021 Offering, of an aggregate of 9,230,500 units, with each unit consisting of one share of common stock and a warrant, or the March 2021 Warrants. The March 2021 Warrants are immediately exercisable for shares of common stock at a price of \$3.60 per share and expire five years from the date of issuance. The shares of common stock and the March 2021 Warrants were immediately separable and were issued separately in the March 2021 Offering. As of December 22, 2021, there are 9,230,500 March 2021 Warrants currently outstanding.

May 2020 Warrants

On May 22, 2020, we completed a registered public offering for the purchase of an aggregate of 3,172,413 units consisting of: (i) one share of our common stock and (ii) a warrant to purchase one share of our common stock at an exercise price per share of common stock equal to \$7.975, or the May 2020 Warrants. The May 2020 warrants were immediately exercisable upon issuance, in whole or in part, and expire five years from the date of issuance. The May 2020 Warrants may not be exercised to the extent that, following such exercise, the holder would beneficially own more than 4.99% (or, at the election of the purchaser prior to the date of issuance, 9.99%) of our outstanding shares of common stock, except that upon at least sixty-one (61) days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's May 2020 Warrants up to 9.99% (or up to 19.99% upon our prior written approval) of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the May 2020 Warrants. The May 2020 Warrants contain customary provisions that adjust the exercise price and the number of shares in the event of certain corporate transactions. As of December 22, 2021, there are 3,154,663 May 2020 Warrants currently outstanding.

December 2019 Private Placement Warrants

On December 6, 2019, we completed a private placement offering with select institutional investors for the purchase of an aggregate of 2,916,666 shares of common stock and warrants to purchase up to 1,458,334 shares of our common stock, or the December 2019 Warrants, at an exercise price equal to \$12.09 per share. The December 2019 Warrants may be exercised on the six-month anniversary of the date of issuance and through the 5-year anniversary of the date of issuance. The December 2019 Warrants may not be exercised to the extent that the holder thereof would, following such exercise or conversion, beneficially own more than 4.99% (or such other percent as designated by each holder not to exceed 19.99%) of our outstanding shares of common stock. The December 2019 Warrants contain customary provisions that adjust the exercise price and the number of shares of common stock underlying the December 2019 Warrants in the event of certain corporate transactions. On May 6, 2020, we entered into an amendment with certain holders of the December 2019 Warrants pursuant to which the exercise price of the December 2019 Warrants was amended from \$12.09 to \$9.67 if the December 2019 Warrants were exercised, in whole or in part, prior to December 5, 2021. As of December 22, 2021, there are 1,458,334 December 2019 Warrants currently outstanding.

December 2018 Private Placement Warrants

On December 21, 2018, we completed a private placement offering with select institutional investors for the purchase of an aggregate of 3,928,513 shares of our common stock. In connection with this financing, we issued (i) warrants to purchase an aggregate of 667,847 shares of common stock, at an exercise price equal to \$11.04 per share, which were exercisable through the 18-month anniversary of the date of issuance, and (ii) warrants to purchase an aggregate of 1,296,410 shares of common stock, at an exercise price equal to \$12.15 per share, which are exercisable through the 5-year anniversary of the date of issuance, or the December 2018 Long-Term Warrants. The December 2018 Long-Term Warrants (i) may not be exercised to the extent that, following such exercise, the holder would beneficially own more than 9.99% (or other percent as designated by each holder) of our outstanding shares of common stock, and (ii) otherwise contain customary provisions that adjust the exercise price and the number of shares of common stock into which they may be exercised in the event of certain corporate transactions. As of December 22, 2021, there are 1,296,410 December 2018 Long-Term Warrants currently outstanding.

AEROSURF Warrants (December 2018)

In connection with our acquisition of CVie Investments Limited, an exempted company with limited liability incorporated under the laws of the Cayman Islands, our board of directors declared a dividend to the holders of record of our outstanding shares of common stock, and holders of certain warrants to purchase common stock, that were outstanding on December 20, 2018, of a 0.6148 AEROSURF warrant, for each share of common stock held by a stockholder or each warrant held by a warrant holder, as applicable, on the record date, or the AEROSURF Warrants. The AEROSURF Warrants are exercisable for an aggregate of 987,722 shares of common stock. Each AEROSURF Warrant has a term of five years and provides for automatic exercise into one share of common stock, without the payment of any exercise price, upon the Company's public announcement of the dosing of the first human subject enrolled in the Company's phase 3 clinical trial for AEROSURF. As of December 22, 2021, there are 987,722 AEROSURE Warrants currently outstanding.

Battelle Collaboration Agreement Warrants (October 2014 and December 2018)

We entered into the Battelle Collaboration Agreement with Battelle Memorial Institute, or Battelle, in October 2014, which was amended in August 2015 and March 2016, for the development of a new version of our Aerosol Delivery System. In connection with the Battelle Collaboration Agreement, on October 10, 2014, we issued warrants to Battelle to purchase 1,190 shares of common stock, or the Battelle Warrants, at an exercise price of \$4,200.00 per share, which expire on October 10, 2024. In December 2018, we and Battelle entered into a restructuring agreement, which reflected the terms of an October 2017 nonbinding memorandum of understanding, in which we outlined terms to restructure approximately \$4.3 million then due to Battelle, under a Research and Development Services Agreement, dated June 22, 2012, and the Battelle Collaboration Agreement. In connection with the restructuring agreement with Battelle, on December 11, 2018, we issued additional warrants to Battelle to purchase 25,000 shares of common stock, or the Restructuring Warrants, exercisable at a price of \$19.50 per share, which expire on December 7, 2023. As of December 22, 2021, there are 25,000 and 1,190 Battelle Warrants and Restructuring Warrants outstanding, respectively.

Panacea Venture Management Company Ltd. Warrants (July 2018)

On July 2, 2018, we issued to Panacea Venture Management Company Ltd., or Panacea, a Secured Convertible Promissory Note, or the Panacea Note, with respect to a loan facility in the aggregate amount of up to \$1.5 million, which was funded in two loans of \$1.0 million on the date of the Panacea Note and \$0.5 million on July 23, 2018. In connection with the Panacea Note, we issued to Panacea warrants to purchase 62,500 shares of common stock, or the July 2018 Warrants, at an exercise price of \$12.00 per share. The July 2018 Warrants are exercisable at any time beginning six months after the date of issuance and through the fifth anniversary of the date of issuance. The July 2018 Warrants may not be exercised to the extent that the holder thereof would, following such exercise, beneficially own more than 9.99% (or such other percent as designated by each holder) of our outstanding shares of common stock, which percentage may be increased, decreased or waived by such holder upon sixty-one (61) days' notice to us. The July 2018 Warrants also contain customary provisions that adjust the exercise price and the number of shares of common stock underlying the July 2018 Warrants in the event of certain corporate transactions. As of December 22, 2021, there are 62,500 July 2018 Warrants currently outstanding.

LPH II Warrants (April 2018)

On March 30, 2018, LPH II Investments Ltd. invested \$2.6 million in us and acquired 180,555 shares of our common stock and 45,139 warrants to purchase 45,139 shares of our common stock, or the April 2018 Warrants, at an exercise price of \$16.56 per share. The April 2018 Warrants may be exercised at any time beginning six months after the date of issuance and through the seventh anniversary of the date of issuance. The April 2018 Warrants may not be exercised to the extent that the holder thereof would, following such exercise, beneficially own more than 9.99% (or such other percent as designated by each holder) of the Company's outstanding shares of common stock, which percentage may be increased, decreased or waived by such holder upon sixty-one (61) days' notice to us. The April 2018 Warrants also contain customary provisions that adjust the exercise price and the number of shares of common stock underlying the April 2018 Warrants in the event of certain corporate transactions. As of December 22, 2021, there are 45,139 April 2018 Warrants currently outstanding.

February 2017 Private Placement Warrants

On February 15, 2017, we completed a private placement offering of 7,049 Series A Convertible Preferred Stock units. Each unit consisted of: (i) one share of Series A Convertible Preferred Stock, which was convertible into 16 shares of common stock; and (ii) warrants to purchase 16 shares of common stock, or the February 2017 Warrants, at an exercise price equal to \$82.20 per share. The February 2017 Warrants may be exercised at any time beginning six months after the date of issuance and through the seventh anniversary of the date of issuance. The February 2017 Warrants may not be converted or exercised to the extent that the holder would, following such exercise or conversion, beneficially own more than 9.99% (or other lesser percent as designated by each holder) of our outstanding shares of common stock. As of December 22, 2021, there are 117,483 February 2017 Warrants currently outstanding.

July 2015 Warrants

On July 22, 2015, we completed a registered public offering of 29,861 Series A units and 50,000 Series B units. Each Series A unit consisted of one share of common stock and a Series A warrant, or the July 2015 Warrants, to purchase one share of common stock at an exercise price of \$588.00 per share. Each Series B unit consisted of a fully paid pre-funded Series B warrant to purchase one share of common stock at an exercise price of \$504.00 per share and a Series B warrant to purchase one share of common stock at an exercise price of \$588.00 per share. As of December 31, 2017, all pre-funded Series B warrants were exercised. The July 2015 Warrants are exercisable immediately through the seventh anniversary of the date of issuance. The July 2015 Warrants may not be exercised to the extent that the holder would, following such exercise, beneficially own more than 9.99% (or 4.99% as may be elected by each holder) of our outstanding shares of common stock. As of December 22, 2021, there are 79,861 July 2015 Warrants currently outstanding.

Anti-Takeover Effects of Provisions of the General Corporation Law of the State of Delaware, our Certificate of Incorporation, and our By-Laws

Certificate of Incorporation and By-Laws

Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the voting power of our shares of common stock outstanding will be able to elect all of our directors. According to Section 242 of the General Corporation Law of the State of Delaware, or the DGCL, and our By-Laws, the affirmative vote of holders of at least a majority of the voting power of all of the then outstanding shares of voting stock, voting as a single class, is required to amend certain provisions of our Certificate of Incorporation. Further, our By-Laws provide that stockholder actions may be effected at a duly called meeting of stockholders or by written consent.

Our By-Laws further provide the Board with the exclusive right to increase or decrease the size of the Board (not less than three), and with the right to elect directors to fill a vacancy created by the expansion of the Board or the resignation, death, or removal of a director.

Section 203 of the DGCL

As a corporation organized under the laws of the State of Delaware, we are subject to Section 203 of the DGCL, which restricts our ability to enter into business combinations with an interested stockholder, the owner of 15% or more of the corporation's voting stock, or an interested stockholder's affiliates or associates, for a period of three years after such person became an interested stockholder. These restrictions do not apply if:

- before becoming an interested stockholder, our Board approves either the business combination or the transaction in which the stockholder becomes an interested stockholder;
- upon consummation of the transaction in which the stockholder becomes an interested stockholder, the interested stockholder owns at least 85% of our voting stock outstanding at the time the transaction commenced, subject to exceptions; or
- on or after the date a stockholder becomes an interested stockholder, the business combination is both approved by our Board and authorized at an annual or special meeting of our stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

Choice of Forum

Our Certificate of Incorporation provides that unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for: (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or to our stockholders, (iii) any action asserting a claim against us, our directors, officers, or employees arising pursuant to any provision of the DGCL or our Certificate of Incorporation or our By-laws, or (iv) any action asserting a claim against the Corporation governed by the internal affairs doctrine. This exclusive forum provision would not apply to suits brought to enforce any liability or duty created by the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. To the extent that any such claims may be based upon federal law claims, Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder.

Limitations of Liability and Indemnification Matters

Pursuant to our By-Laws, we indemnify our directors to the maximum extent permissible under the DGCL. In addition, we have entered into indemnity agreements with our officers and directors that provide, among other things, that we will indemnify them, under the circumstances and to the extent provided for therein, for expenses, damages, judgments, fines and settlements he or she may be required to pay in actions or proceedings to which he or she is or may be made a party by reason of his or her position as a director, officer, or other agent of ours, and otherwise to the fullest extent permitted under the DGCL and our By-Laws. These provisions may be held not to be enforceable for violations of the federal securities laws.

Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol "WINT."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company. The transfer agent and registrar's address is 1 State Street, 30th Floor, New York, New York 10004.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement or free writing prospectus, summarizes certain general terms and provisions of the debt securities that we may offer under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities.

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated, or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and a third party to be identified therein, as trustee. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement and you should read the indenture for provisions that may be important to you. In the summary below, we have included references to the section numbers of the indenture so that you can easily locate these provisions. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture.

As used in this section only, “Windtree,” “Windtree Therapeutics,” “the Company,” “we,” “our,” or “us” refer to Windtree Therapeutics, Inc., a Delaware corporation, excluding our consolidated subsidiaries, unless expressly stated or the context otherwise requires.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in a resolution of our board of directors, in an officer’s certificate, or by a supplemental indenture. (Section 2.2). The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series (including any pricing supplement or term sheet).

We can issue an unlimited amount of debt securities under the indenture that may be issued in one or more series. Unless otherwise set forth in a resolution of our board of directors, in an officer’s certificate, or by a supplemental indenture detailing the adoption of a series of debt securities, all securities in a series shall be identical. Debt securities may differ between series with respect to any term, provided, that all series of debt securities shall be equally and ratably entitled to the benefits of the indenture. (Section 2.1). We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered, the aggregate principal amount, and the following terms of the debt securities, if applicable:

- the title and ranking of the debt securities (including the terms of any subordination provisions);
- the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;
- any limit on the aggregate principal amount of the debt securities;
- the date or dates on which the principal of the securities of the series is payable;
- the interest rate or rates (which may be fixed or variable) per annum or, if applicable, the method used to determine such interest rate or rates (including any commodity, commodity index, stock exchange index, or financial index) at which the debt securities will bear interest, the date or dates from which interest, if any, will accrue, the date or dates on which interest, if any, will commence and be payable, and any regular record date for the interest payable on any interest payment date;
- the place or places where principal of, premium, if any, and interest, if any, is payable on the debt securities (and the method of such payment), where the securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;
- the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem the debt securities;
- any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and in the terms and conditions upon which securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

- the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;
- the denominations in which the debt securities will be issued, if other than denominations of \$1,000 and any integral multiple thereof;
- whether the debt securities will be issued in the form of certificated debt securities or global debt securities;
- the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- the currency of denomination of the debt securities, which may be United States Dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;
- the designation of the currency, currencies, or currency units in which payment of principal of, premium and interest on the debt securities will be made;
- if payments of principal of, premium, if any, or interest, if any, on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the manner in which the amounts of payment of principal of, premium, if any, or interest, if any, on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;
- any provisions relating to any security provided for the debt securities;
- any addition to, deletion of, or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any addition to, deletion of, or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;
- any depositaries, interest rate calculation agents, exchange rate calculation agents, or other agents with respect to the debt securities;
- the provisions, if any, relating to conversion or exchange of any debt securities of such series, including if applicable, the conversion or exchange price and period, provisions as to whether conversion or exchange will be mandatory, the events requiring an adjustment of the conversion or exchange price, and provisions affecting conversion or exchange;
- any other terms of the debt securities, which may supplement, modify, or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities; and
- whether any of our direct or indirect subsidiaries will guarantee the debt securities of that series, including the terms of subordination, if any, of such guarantees. (Section 2.2).

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, or DTC, or a nominee of DTC (we will refer to any debt security represented by a global debt security as a “book-entry debt security”), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a “certificated debt security”) as set forth in the applicable prospectus supplement. Except as set forth under the heading “Global Debt Securities and Book-Entry System” below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. (Section 2.4). No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange. (Section 2.7).

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder. (Section 2.7).

Global Debt Securities and Book-Entry System. Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the Depository, and registered in the name of the Depository or a nominee of the Depository. Please see “Global Securities.”

Covenants

Unless otherwise indicated in this prospectus or the applicable prospectus supplement, our debt securities may not have the benefit of any covenant that limits or restricts our business or operations, the pledging of our assets, or the incurrence by us of indebtedness. We will describe in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities (Article IV).

No Protection in the Event of a Change of Control

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

Consolidation, Merger, and Sale of Assets

We may not consolidate with or merge with or into, or convey, transfer, or lease all or substantially all of our properties and assets to any person (a “successor person”) unless:

- we are the surviving corporation or the successor person (if other than us) is a corporation organized and validly existing under the laws of any U.S. domestic jurisdiction or a corporation or comparable legal entity organized under the laws of a foreign jurisdiction and expressly assumes our obligations on the debt securities and under the indenture; and
- immediately after giving effect to the transaction, no Default or Event of Default, shall have occurred and be continuing.

Notwithstanding the above, any of our subsidiaries may consolidate with, merge into, or transfer all or part of its properties to us. (Section 5.1).

Events of Default

Unless otherwise specified in the resolutions of our board of directors, officer’s certificate, or supplemental indenture establishing a series of debt securities, “Event of Default” means with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of thirty (30) days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the thirty (30)-day period);

- default in the payment of principal of any security of that series at its maturity;
- default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of sixty (60) days after we receive written notice from the trustee or Windtree and the trustee receive written notice from the holders of not less than 25% in principal amount of the outstanding debt securities of that series as provided in the indenture;
- certain voluntary or involuntary events of bankruptcy, insolvency, or reorganization of the Company; and
- any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement. (Section 6.1).

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an Event of Default with respect to any other series of debt securities. (Section 6.1). The occurrence of certain Events of Default or an acceleration under the indenture may constitute an event of default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

We will provide the trustee written notice of any Default or Event of Default within thirty (30) days of becoming aware of the occurrence of such Default or Event of Default, which notice will describe in reasonable detail the status of such Default or Event of Default and what action we are taking or propose to take in respect thereof. (Section 6.1).

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency, or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. (Section 6.2). We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

The indenture provides that the trustee may refuse to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in performing such duty or exercising such right or power. (Section 7.1(e)). Subject to certain rights of the trustee, 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. (Section 6.12).

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series; and
- the holders of not less than 25% in principal amount of the outstanding debt securities of that series have made written request, and offered indemnity or security satisfactory to the trustee, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of not less than a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within sixty (60) days. (Section 6.7).

No holder of debt securities under the indenture may use the indenture to prejudice the rights of another holder or to obtain a preference or priority over another holder of debt securities. (Section 6.7).

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment. (Section 6.8).

The indenture requires us, within one hundred twenty (120) days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. (Section 4.3). If a Default or Event of Default occurs and is continuing with respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall mail to each holder of the securities of that series notice of a Default or Event of Default within ninety (90) days after it occurs or, if later, after a responsible officer of the trustee has knowledge of such Default or Event of Default (except if such Default or Event of Default has been validly cured or waived before the trustee gives such notice). The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities. (Section 7.5).

Modification and Waiver

We and the trustee may modify, amend or supplement the indenture or the debt securities of any series without the consent of any holder of any debt security:

- to cure any ambiguity, defect or inconsistency;
- to comply with covenants in the indenture described above under the heading “Consolidation, Merger, and Sale of Assets;”
- to provide for uncertificated securities in addition to or in place of certificated securities;
- to add guarantees with respect to debt securities of any series or secure debt securities of any series;
- to surrender any of our rights or powers under the indenture;
- to add covenants or events of default for the benefit of the holders of debt securities of any series;
- to comply with the applicable procedures of the applicable depository;
- to make any change that does not adversely affect the rights of any holder of debt securities;
- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or
- to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act. (Section 9.1).

We may also modify and amend the indenture with the written consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the written consent of the holders of each affected debt security then outstanding if that amendment will:

- reduce the amount of debt securities whose holders must consent to an amendment, supplement, or waiver;
- reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;
- reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;
- reduce the principal amount of discount securities payable upon acceleration of maturity;
- waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);

- make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;
- make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or
- waive a redemption payment with respect to any debt security. (Section 9.3).

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. (Section 9.2). The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration. (Section 6.13).

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of any series (subject to certain exceptions). We will be so discharged upon the irrevocable deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money or U.S. government obligations in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred. (Section 8.3).

Defeasance of Certain Covenants. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

- we may omit to comply with the covenant described under the heading “Consolidation, Merger, and Sale of Assets” and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and
- any omission to comply with those covenants will not constitute a Default or an Event of Default with respect to the debt securities of that series (“covenant defeasance”)

The conditions include:

- depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and

- delivering to the trustee an opinion of counsel to the effect that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the beneficial owners of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred. (Section 8.4).

No Personal Liability of Directors, Officers, Employees or Stockholders

None of our past, present, or future directors, officers, employees, or stockholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability.

This waiver and release is part of the consideration for the issue of the debt securities. However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy. (Section 10.8).

Governing Law

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York.

The indenture will provide that we, the trustee, and the holders of the debt securities (by their acceptance of the debt securities) irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to the indenture, the debt securities or the transactions contemplated thereby.

The indenture will provide that any legal suit, action or proceeding arising out of or based upon the indenture or the transactions contemplated thereby may be instituted in the federal courts of the United States of America located in the City of New York or the courts of the State of New York in each case located in the City of New York, and we, the trustee and the holder of the debt securities (by their acceptance of the debt securities) irrevocably submit to the non-exclusive jurisdiction of such courts in any such suit, action or proceeding. The indenture will further provide that service of any process, summons, notice or document by mail (to the extent allowed under any applicable statute or rule of court) to such party's address set forth in the indenture will be effective service of process for any suit, action or other proceeding brought in any such court. The indenture will further provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the courts specified above and irrevocably and unconditionally waive and agree not to plead or claim any such suit, action or other proceeding has been brought in an inconvenient forum. (Section 10.10).

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. The following summary of material provisions of the warrants and warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

The particular terms of any issue of warrants will be described in the applicable prospectus supplement. Those terms may include:

- the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;
- the designation, stated value, and terms (including, without limitation, liquidation, dividend, conversion, and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities, or other property;
- the date, if any, on and after which the warrants and the related debt securities, preferred stock, or common stock will be separately transferable;
- the terms of any rights to redeem or call the warrants;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- United States Federal income tax consequences applicable to the warrants; and
- any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled to:

- vote, consent, or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
- exercise any rights as stockholders of Windtree.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

A holder of warrant certificates may exchange them for new warrant certificates of different denominations, present them for registration of transfer and exercise them at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Until any warrants to purchase debt securities are exercised, the holder of the warrants will not have any rights of holders of the debt securities that can be purchased upon exercise, including any rights to receive payments of principal, premium or interest on the underlying debt securities or to enforce covenants in the applicable indenture. Until any warrants to purchase common stock or preferred stock are exercised, the holders of the warrants will not have any rights of holders of the underlying common stock or preferred stock, including any rights to receive dividends or payments upon any liquidation, dissolution or winding up on the common stock or preferred stock, if any.

Warrant Agent

The warrant agent for any warrants will be set forth in the applicable prospectus supplement.

Description of Outstanding Warrants

See “Description of Our Capital Stock — Common Stock Warrants” for a description of our outstanding warrants.

DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other terms of the units and of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” “Description of Debt Securities” and “Description of Warrants” will apply to the securities included in each unit, to the extent relevant and as may be updated in any prospectus supplements.

DESCRIPTION OF SUBSCRIPTION RIGHTS

As specified in any applicable prospectus supplement, we may issue subscription rights consisting of one or more debt securities, shares of preferred stock, shares of common stock, or any combination of such securities.

GLOBAL SECURITIES

Book-Entry, Delivery and Form

Unless we indicate differently in any applicable prospectus supplement, the securities initially will be issued in book-entry form and represented by one or more global notes or global securities, or, collectively, global securities. The global securities will be deposited with, or on behalf of DTC, and registered in the name of Cede & Co., the nominee of DTC. Unless and until it is exchanged for individual certificates evidencing securities under the limited circumstances described below, a global security may not be transferred except as a whole by the depository to its nominee or by the nominee to the depository, or by the depository or its nominee to a successor depository or to a nominee of the successor depository.

DTC has advised us that it is:

- a limited-purpose trust company organized under the New York Banking Law;
- a “banking organization” within the meaning of the New York Banking Law;
- a member of the Federal Reserve System;
- a “clearing corporation” within the meaning of the New York Uniform Commercial Code; and
- a “clearing agency” registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC holds securities that its participants deposit with DTC. DTC also facilitates the settlement among its participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants’ accounts, thereby eliminating the need for physical movement of securities certificates. “Direct participants” in DTC include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations, and other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, which we sometimes refer to as indirect participants, that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of securities under the DTC system must be made by or through direct participants, which will receive a credit for the securities on DTC’s records. The ownership interest of the actual purchaser of a security, which we sometimes refer to as a beneficial owner, is in turn recorded on the direct and indirect participants’ records. Beneficial owners of securities will not receive written confirmation from DTC of their purchases. However, beneficial owners are expected to receive written confirmations providing details of their transactions, as well as periodic statements of their holdings, from the direct or indirect participants through which they purchased securities. Transfers of ownership interests in global securities are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in the global securities, except under the limited circumstances described below.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC will be registered in the name of DTC’s partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of securities with DTC and their registration in the name of Cede & Co. or such other nominee will not change the beneficial ownership of the securities. DTC has no knowledge of the actual beneficial owners of the securities. DTC’s records reflect only the identity of the direct participants to whose accounts the securities are credited, which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

So long as the securities are in book-entry form, you will receive payments and may transfer securities only through the facilities of the depository and its direct and indirect participants. We will maintain an office or agency in the location specified in the prospectus supplement for the applicable securities, where notices and demands in respect of the securities and the indenture may be delivered to us and where certificated securities may be surrendered for payment, registration of transfer, or exchange.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any legal requirements in effect from time to time.

Redemption notices will be sent to DTC. If less than all of the securities of a particular series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in the securities of such series to be redeemed.

Neither DTC nor Cede & Co. (or such other DTC nominee) will consent or vote with respect to the securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. to those direct participants to whose accounts the securities of such series are credited on the record date, identified in a listing attached to the omnibus proxy.

So long as securities are in book-entry form, we will make payments on those securities to the depository or its nominee, as the registered owner of such securities, by wire transfer of immediately available funds. If securities are issued in definitive certificated form under the limited circumstances described below and unless if otherwise provided in the description of the applicable securities herein or in the applicable prospectus supplement, we will have the option of making payments by check mailed to the addresses of the persons entitled to payment or by wire transfer to bank accounts in the United States designated in writing to the applicable trustee or other designated party at least fifteen (15) days before the applicable payment date by the persons entitled to payment, unless a shorter period is satisfactory to the applicable trustee or other designated party.

Redemption proceeds, distributions, and dividend payments on the securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us on the payment date in accordance with their respective holdings shown on DTC records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in "street name." Those payments will be the responsibility of participants and not of DTC or us, subject to any statutory or regulatory requirements in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is our responsibility, disbursement of payments to direct participants is the responsibility of DTC, and disbursement of payments to the beneficial owners is the responsibility of direct and indirect participants.

Except under the limited circumstances described below, purchasers of securities will not be entitled to have securities registered in their names and will not receive physical delivery of securities. Accordingly, each beneficial owner must rely on the procedures of DTC and its participants to exercise any rights under the securities and the indenture.

The laws of some jurisdictions may require that some purchasers of securities take physical delivery of securities in definitive form. Those laws may impair the ability to transfer or pledge beneficial interests in securities.

DTC may discontinue providing its services as securities depository with respect to the securities at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depository is not obtained, securities certificates are required to be printed and delivered.

As noted above, beneficial owners of a particular series of securities generally will not receive certificates representing their ownership interests in those securities. However, if:

- DTC notifies us that it is unwilling or unable to continue as a depository for the global security or securities representing such series of securities or if DTC ceases to be a clearing agency registered under the Exchange Act at a time when it is required to be registered and a successor depository is not appointed within ninety (90) days of the notification to us or of our becoming aware of DTC's ceasing to be so registered, as the case may be;
- we determine, in our sole discretion, not to have such securities represented by one or more global securities; or
- an Event of Default has occurred and is continuing with respect to such series of securities, we will prepare and deliver certificates for such securities in exchange for beneficial interests in the global securities.

Any beneficial interest in a global security that is exchangeable under the circumstances described in the preceding sentence will be exchangeable for securities in definitive certificated form registered in the names that the depository directs. It is expected that these directions will be based upon directions received by the depository from its participants with respect to ownership of beneficial interests in the global securities.

We have obtained the information in this section and elsewhere in this prospectus concerning DTC and DTC's book-entry system from sources that are believed to be reliable, but we take no responsibility for the accuracy of this information.

Euroclear and Clearstream

If so provided in the applicable prospectus supplement, you may hold interests in a global security through Clearstream Banking S.A., which we refer to as "Clearstream," or Euroclear Bank S.A./N.V., as operator of the Euroclear System, which we refer to as "Euroclear," either directly if you are a participant in Clearstream or Euroclear or indirectly through organizations which are participants in Clearstream or Euroclear. Clearstream and Euroclear will hold interests on behalf of their respective participants through customers' securities accounts in the names of Clearstream and Euroclear, respectively, on the books of their respective U.S. depositories, which in turn will hold such interests in customers' securities accounts in such depositories' names on DTC's books.

Clearstream and Euroclear are securities clearance systems in Europe. Clearstream and Euroclear hold securities for their respective participating organizations and facilitate the clearance and settlement of securities transactions between those participants through electronic book-entry changes in their accounts, thereby eliminating the need for physical movement of certificates.

Payments, deliveries, transfers, exchanges, notices, and other matters relating to beneficial interests in global securities owned through Euroclear or Clearstream must comply with the rules and procedures of those systems. Transactions between participants in Euroclear or Clearstream, on one hand, and other participants in DTC, on the other hand, are also subject to DTC's rules and procedures.

Investors will be able to make and receive through Euroclear and Clearstream payments, deliveries, transfers and other transactions involving any beneficial interests in global securities held through those systems only on days when those systems are open for business. Those systems may not be open for business on days when banks, brokers, and other institutions are open for business in the United States.

Cross-market transfers between participants in DTC, on the one hand, and participants in Euroclear or Clearstream, on the other hand, will be effected through DTC in accordance with the DTC's rules on behalf of Euroclear or Clearstream, as the case may be, by their respective U.S. depositories; however, such cross-market transactions will require delivery of instructions to Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with the rules and procedures and within the established deadlines (European time) of such system. Euroclear or Clearstream, as the case may be, will, if the transaction meets its settlement requirements, deliver instructions to its U.S. depository to take DTC, and making or receiving payment in accordance with normal procedures for same-day fund settlement. Participants in Euroclear or Clearstream may not deliver instructions directly to their respective U.S. depositories.

Due to time zone differences, the securities accounts of a participant in Euroclear or Clearstream purchasing an interest in a global security from a direct participant in DTC will be credited, and any such crediting will be reported to the relevant participant in Euroclear or Clearstream, during the securities settlement processing day (which must be a business day for Euroclear or Clearstream) immediately following the settlement date of DTC. Cash received in Euroclear or Clearstream as a result of sales of interests in a global security by or through a participant in Euroclear or Clearstream to a direct participant in DTC will be received with value on the settlement date of DTC but will be available in the relevant Euroclear or Clearstream cash account only as of the business day for Euroclear or Clearstream following DTC's settlement date.

Other

The information in this section of this prospectus concerning DTC, Clearstream, Euroclear and their respective book-entry systems has been obtained from sources that we believe to be reliable, but we do not take responsibility for this information. This information has been provided solely as a matter of convenience. The rules and procedures of DTC, Clearstream and Euroclear are solely within the control of those organizations and could change at any time. Neither we nor the trustee nor any agent of ours or of the trustee has any control over those entities and none of us takes any responsibility for their activities. You are urged to contact DTC, Clearstream and Euroclear or their respective participants directly to discuss those matters. In addition, although we expect that DTC, Clearstream and Euroclear will perform the foregoing procedures, none of them is under any obligation to perform or continue to perform such procedures and such procedures may be discontinued at any time. Neither we nor any agent of ours will have any responsibility for the performance or nonperformance by DTC, Clearstream and Euroclear or their respective participants of these or any other rules or procedures governing their respective operations.

SELLING STOCKHOLDERS

This prospectus relates to the possible resale by certain of our stockholders, who we refer to in this prospectus as the “selling stockholders,” from time to time of up to an aggregate of 170,000 shares of our common stock issuable upon the exercise of certain common stock purchase warrants issued and outstanding prior to the original date of filing of the registration statement of which this prospectus forms a part. When we refer to “selling stockholders” in this prospectus, we mean the stockholders listed in the table below, and any pledgees, donees, transferees, assignees, and others who later come to hold some or all of the common stock covered by this prospectus.

The table below presents information regarding the selling stockholders, the shares of common stock beneficially owned by each, the shares of common stock that they may sell or otherwise dispose of from time to time under this prospectus and the number and percentage of our common stock each of the selling stockholders will own assuming all of the shares covered by this prospectus are sold by the selling stockholders.

We have issued common stock purchase warrants, or the National Warrants, dated February 2, 2021, to National Securities Corporation, or National, in which we agreed, among other matters, to register for resale the shares of common stock issuable upon the exercise of the National Warrants. In accordance with the terms of the National Warrants, we are registering 170,000 of such shares issuable upon the exercise of the National Warrants for resale under the registration statement of which this prospectus forms a part. In addition to serving as a financial advisor to us, National was an underwriter for two of our registered public offerings in the past three years, in May 2020 and March 2021, respectively. For additional information regarding material relationships between the selling stockholders (or their affiliates) and us, please refer to the documents filed by us with the SEC and incorporated by reference herein, including the exhibits thereto.

We do not know whether, when, or in what amounts the selling stockholders may sell or otherwise dispose of the shares of common stock covered hereby. The selling stockholders might not sell or dispose of any or all of the shares covered by this prospectus or may sell or dispose of some or all of the shares other than pursuant to this prospectus. Because the selling stockholders may not sell or otherwise dispose of some or all of the shares covered by this prospectus and because there are currently no agreements, arrangements or understandings with respect to the sale or other disposition of any of the shares, we cannot estimate the number of the shares that will be held by the selling stockholders after completion of the offering. However, for purposes of this table, we have assumed that all of the shares of common stock covered by this prospectus will be sold by the selling stockholders and that any other shares of our common stock beneficially owned by these selling stockholders will continue to be beneficially owned.

The information in the table is based on 28,268,926 shares outstanding as of December 22, 2021. Beneficial ownership is determined in accordance with Section 13(d) of the Exchange Act and generally includes voting or investment power with respect to securities and including any securities that grant the selling stockholder the right to acquire shares of common stock within 60 days of December 22, 2021. Other than the transactions referred to herein and in documents filed by us with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, the selling stockholders have not within the past three years had any position, office or other material relationship with us or any of our subsidiaries other than as a holder of our securities.

Name of Selling Stockholder	Shares of Common Stock Beneficially Owned Prior to the Offering (1)		Maximum Number of Shares that May Be Offered Pursuant to this Prospectus	Shares Beneficially Owned After the Sale of the Maximum Number of Shares Offered Hereby (2)	
	Number	Percent		Number	Percent
	National Securities Corporation (3)	170,000		*	170,000

*less than 1%

- (1) “Beneficial ownership” is a term broadly defined by the SEC in Rule 13d-3 under the Exchange Act and includes more than the typical form of stock ownership, that is, stock held in the person’s name. The term also includes what is referred to as “indirect ownership,” meaning ownership of shares as to which a person has or shares investment power. For purposes of this table, a person or group of persons is deemed to have “beneficial ownership” of any shares that are currently exercisable or exercisable within 60 days of December 22, 2021.
- (2) Assumes that all shares of common stock being registered under the registration statement of which this prospectus forms a part that are held by the selling stockholders are resold to third parties.
- (3) The number of shares beneficially owned includes 170,000 shares of common stock issuable upon the exercise of common stock purchase warrants held by the selling stockholder. The address for National Securities Corporation is 200 Vesey Street, 25th Floor, New York, NY 10281.

The selling stockholders listed in the above table may have sold or transferred, in transactions pursuant to this prospectus or exempt from the registration requirements of the Securities Act, some or all of its shares since the date as of which the information is presented in the above table. Information concerning the selling stockholders may change from time to time and any such changed information will be set forth in supplements to this prospectus or amendments to the registration statement of which this prospectus is a part if and when necessary.

We have agreed to pay all costs, expenses, and fees relating to the registration of the shares of our common stock covered by this prospectus. The selling stockholders have agreed to pay any underwriting discounts and commissions, or similar charges incurred for the sale of such shares of our common stock.

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades, or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

The selling stockholders may from time to time sell all or a portion of the shares of our common stock beneficially owned by them and offered hereby directly or through one or more underwriters, broker-dealers, or agents. If the shares of common stock are sold through underwriters or broker-dealers, the selling stockholders will be responsible for discounts or commissions payable to such underwriters or broker-dealers. The selling stockholders may use any one or more of the following methods (which may involve crosses or block transactions) when selling securities:

- on any national stock exchange or U.S. interdealer quotation system of a registered national securities association on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- underwritten transactions;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such securities at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell all or a portion of their common stock in reliance upon Rule 144 under the Securities Act or Section 4(a)(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions. The selling stockholders may also transfer, devise or gift such securities by other means not described in this prospectus. The selling stockholders are not obligated to, and there is no assurance that the selling stockholders will, sell all or any of the securities we are registering.

Each time that we or the selling stockholders sell securities covered by this prospectus, we or the selling stockholders will (to the extent required) provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions, or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a “best-efforts” basis and a dealer will purchase securities as a principal and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers, or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. The selling stockholders as well as underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We are required to pay certain fees and expenses incurred by us incident to the registration of the securities held by the selling stockholders. We may enter into agreements to indemnify underwriters, dealers, and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Any common stock or preferred stock will be listed on the Nasdaq Capital Market, but any other securities may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

We or the selling stockholders may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we or the selling stockholders may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or the selling stockholders or borrowed from us, the selling stockholders or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we or the selling stockholders may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers, and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Troutman Pepper Hamilton Sanders LLP, Philadelphia, Pennsylvania. Additional legal matters may be passed upon for us or any underwriters, dealers, or agents, by counsel that we will name in the applicable prospectus supplement. As appropriate, legal counsel representing the underwriters, dealers, or agents will be named in the accompanying prospectus supplement and may opine as to certain legal matters.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2020, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our consolidated financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.



Up to \$27,243,504 of Shares of Common Stock

PROSPECTUS SUPPLEMENT

October 28, 2024.