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TENAX THERAPEUTICS, INC.

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PROSPECTUS

Tenax Therapeutics, Inc.

14,958,874 Shares of Common Stock

This prospectus relates to the resale of up to 14,958,874 shares of our common stock, $0.0001 par value per share, from time to time in one or more offerings by selling stockholders named herein and any additional selling stockholders who will be identified in one or more prospectus supplements.

Of the shares offered hereby, (i) 12,391,308 shares are issuable upon exercise of the Unregistered Pre-Funded Warrants and Unregistered Warrants sold in the private placement described under "Summary—Recent Developments" in this prospectus; (ii) 2,360,313 shares are issuable upon exercise of a warrant sold in a private placement in March 2020; and (iii) 207,253 shares are issuable upon exercise of warrants issued to Ladenburg Thalmann & Co. Inc., the underwriter for our December 2018 public offering of Series A convertible preferred stock and warrants.

We will not receive any proceeds from the resale of the shares of our common stock offered hereby, although we will receive the exercise price of any exercised warrants paid to us by the selling stockholders, which will be used for working capital and general corporate purposes.

Our common stock is traded on the Nasdaq Capital Market and is quoted under the symbol TENX. On September 29, 2020, the last reported sale price of our common stock was $1.55 per share.

The selling stockholders may offer all or part of the shares registered hereby for resale from time to time directly to purchasers, through agents selected by the selling stockholders, or to or through underwriters or dealers, at either prevailing market prices or at privately negotiated prices. If agents, underwriters or dealers are used in the sale of the shares by the selling stockholders, such agents, underwriters or dealers will be named and their compensation described in any applicable prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" on page 7 of this prospectus and the documents that are incorporated by reference into this prospectus.

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

This prospectus is dated September 30, 2020.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, utilizing a "shelf" registration process. Under this process, the selling stockholders may from time to time, in one or more offerings, sell the shares of common stock described in this prospectus.

A prospectus supplement may also add, update, or change the information contained or incorporated in this prospectus. Any prospectus supplement will supersede this prospectus to the extent it contains information that is different from, or that conflicts with, the information contained or incorporated in this prospectus. The registration statement we filed with the SEC includes exhibits that provide more detail of the matters discussed in this prospectus. You should read and consider all information contained in this prospectus and the related registration statement and exhibits filed with the SEC and any accompanying prospectus supplement in making your investment decision. You should also read and consider the information contained in the documents identified under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" in this prospectus.

You should rely only on the information contained or incorporated by reference in this prospectus and in any prospectus supplement. We have not authorized any dealer, salesman, or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. The selling stockholders are offering to sell and seeking offers to buy the common stock only in jurisdictions where offers and sales are permitted. You should assume that the information appearing in this prospectus is accurate only as of the date of this 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 "Tenax Therapeutics," "the Company," "we," "our," and "us" in this prospectus, we mean Tenax Therapeutics, Inc., a Delaware corporation, unless otherwise specified. References to our "common stock" refer to the common stock, par value $0.0001 per share, of Tenax Therapeutics, Inc.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Information set forth in this prospectus and the information incorporated by reference may contain various "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All information relative to future markets for our products and trends in and anticipated levels of revenue, gross margins, and expenses, as well as other statements containing words such as "believe," "project," "may," "will," "anticipate," "target," "plan," "estimate," "expect," and "intend" and other similar expressions constitute forward-looking statements. These forward-looking statements are subject to business, economic, and other risks and uncertainties, both known and unknown, and actual results may differ materially from those contained in the forward-looking statements. Examples of risks and uncertainties that could cause actual results to differ materially from historical performance and any forward-looking statements include, but are not limited to, the risks described under the heading "Risk Factors" on page 7 of this prospectus, in our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q, and subsequent reports filed with the SEC. Given these risks, uncertainties, and other factors, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date such forward-looking statements are made. You should read carefully this prospectus and the information incorporated by reference completely and with the understanding that our actual future results may be materially different from what we expect. We hereby qualify all of our forward-looking statements by these cautionary statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

SUMMARY

This summary is not complete and does not contain all of the information you should consider before investing in the securities offered by this prospectus. You should read this summary together with the entire prospectus, including our financial statements, the notes to those financial statements, and the other documents identified under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" in this prospectus before making an investment decision. See the Risk Factors section of this prospectus on page 7 for a discussion of the risks involved in investing in our securities.

Overview

Tenax Therapeutics is a specialty pharmaceutical company focused on identifying, developing and commercializing products that address cardiovascular and pulmonary diseases of high unmet medical need. On November 13, 2013, through our wholly owned subsidiary, Life Newco, Inc., or Life Newco, we acquired a license granting Life Newco an exclusive, sublicenseable right to develop and commercialize pharmaceutical products containing levosimendan, 2.5 mg/ml concentrate for solution for infusion / 5ml vial in the United States and Canada.

Our principal executive offices are located at ONE Copley Parkway, Suite 490, Morrisville, North Carolina 27560, and our telephone number is (919) 855-2100. Our Internet address is http://www.tenaxthera.com. The information on our website is not incorporated by reference into this prospectus, and you should not consider it part of this prospectus.

Tenax Therapeutics was originally formed as a New Jersey corporation in 1967 under the name Rudmer, David & Associates, Inc., and subsequently changed its name to Synthetic Blood International, Inc. Effective June 30, 2008, we changed the domiciliary state of the corporation to Delaware and changed the company name to Oxygen Biotherapeutics, Inc. On September 19, 2014, we changed the company name to Tenax Therapeutics, Inc.

Business Strategy

Our principal business objective is to identify, develop, and commercialize novel therapeutic products for disease indications that represent significant areas of clinical need and commercial opportunity. The key elements of our business strategy are outlined below.

Efficiently conduct clinical development to establish clinical proof of concept with our current product candidate. Levosimendan represents novel therapeutic modalities for the treatment of pulmonary hypertension and other cardiovascular and pulmonary diseases of high unmet medical need. We are conducting clinical development with the intent to establish proof of concept in several important disease areas where these therapeutics would be expected to have benefit. Our focus is on conducting well-designed studies to establish a robust foundation for subsequent development, partnership and expansion into complementary areas.

Efficiently explore new high potential therapeutic applications, leveraging third-party research collaborations and our results from related areas . Our product candidate has shown promise in multiple disease areas. We are committed to exploring potential clinical indications where our therapies may achieve best-in-class profile, and where we can address significant unmet medical needs. In order to achieve this goal, we have established collaborative research relationships with investigators from research and clinical institutions and our strategic partners. These collaborative relationships have enabled us to cost effectively explore where our product candidates may have therapeutic relevance, and how it may be utilized to advance treatment over current clinical care. Additionally, we believe we will be able to leverage clinical safety data and preclinical results from some programs to support accelerated clinical development efforts in other areas, saving substantial development time and resources compared to traditional drug development.

Continue to expand our intellectual property portfolio. Our intellectual property is important to our business and we take significant steps to protect its value. We have ongoing research and development efforts, both through internal activities and through collaborative research activities with others, which aim to develop new intellectual property and enable us to file patent applications that cover new applications of our existing technologies or product candidates.

Enter into licensing or product co-development arrangements. In addition to our internal development efforts, an important part of our product development strategy is to work with collaborators and partners to accelerate product development, reduce our development costs, and broaden our commercialization capabilities. We believe this strategy will help us to develop a portfolio of high-quality product development opportunities, enhance our clinical development and commercialization capabilities, and increase our ability to generate value from our proprietary technologies.

Our Current Programs

Levosimendan Background

Levosimendan was discovered and developed by Orion Corporation, a Finnish company, or Orion. Levosimendan is a *calcium sensitizer/K-ATP activator* developed for intravenous use in hospitalized patients with acutely decompensated heart failure. It is currently approved in over 60 countries for this indication and not available in the United States or Canada. It is estimated that to date over 1.5 million patients have been treated worldwide with levosimendan**.**

Levosimendan is a novel, first in class *calcium sensitizer/K-ATP activator*. The therapeutic effects of levosimendan are mediated through:

- Increased cardiac contractility by calcium sensitization of troponin C, resulting in a positive inotropic effect which is not associated with substantial increases in oxygen demand.
- Opening of potassium channels in the vasculature smooth muscle, resulting in a vasodilatory effect on all vascular beds.
- Opening of mitochondrial potassium channels in cardiomyocytes, resulting in a cardioprotective effect.

This triple mechanism of action helps to preserve heart function during cardiac surgery. Several studies have demonstrated that levosimendan protects the heart and improves tissue perfusion while minimizing tissue damage during cardiac surgery.

In 2013, we acquired certain assets of Phyxius Pharma, Inc., or Phyxius, including its North American rights to develop and commercialize levosimendan for any indication in the United States and Canada. In the countries where levosimendan is marketed, levosimendan is indicated for the short-term treatment of acutely decompensated severe chronic heart failure in situations where conventional therapy is not sufficient, and in cases where inotropic support is considered appropriate. In acute decompensated heart failure patients, levosimendan has been shown to significantly improve patients' symptoms as well as acute hemodynamic measurements such as increased cardiac output, reduced preload and reduced afterload.

The European Society of Cardiology, or the ESC, recommends levosimendan as a preferable agent over dobutamine to reverse the effect of beta blockade if it is thought to be contributing to hypotension. The ESC guidelines also state that levosimendan is not appropriate for patients with systolic blood pressure less than 85mmHg or in patients in cardiogenic shock unless it is used in combination with other inotropes or vasopressors. Other unique properties of levosimendan include sustained efficacy through the formation of a long acting metabolite, lack of impairment of diastolic function, and evidence of better compatibility with beta blockers than dobutamine.

Levosimendan Development for Pulmonary Hypertension Patients

We are currently conducting a Phase 2 clinical trial of levosimendan in North America for the treatment of patients with pulmonary hypertension associated with heart failure with preserved ejection fraction, or PH-HFpEF. PH-HFpEF is defined hemodynamically by a pulmonary artery pressure, or mPAP, ≥25 mmHg, a pulmonary capillary wedge pressure, or PCWP, >15 mmHg, and a diastolic pressure gradient, or diastolic PAP – PCWP, >7mmHg. Pulmonary hypertension in these patients initially develops from a passive backward transmission of elevated filling pressures from left-sided heart failure. These mechanical components of pulmonary venous congestion may trigger pulmonary vasoconstriction, decreased nitric oxide availability, increased endothelin expression, desensitization to natriuretic peptide induced vasodilation, and vascular remodeling. Finally, these changes often lead to advanced pulmonary vascular disease, increased right ventricle, or RV, afterload, and RV failure.

PH-HFpEF is a common form of pulmonary hypertension with an estimated US prevalence exceeding 1.5 million patients. Currently, no pharmacologic therapies are approved for treatment of PH-HFpEF. Despite the fact that many therapies have been studied in PH-HFpEF patients, including therapies approved to treat pulmonary arterial hypertension patients, no therapies have been shown to be effective in treating PH-HFpEF patients.

Published pre-clinical and clinical studies indicate that levosimendan may provide important benefits to patients with pulmonary hypertension. Data from these published trials indicate that levosimendan may reduce pulmonary vascular resistance and improve important cardiovascular hemodynamics such as reduced pulmonary capillary wedge pressure in patients with pulmonary hypertension. In addition, several published studies provide evidence that levosimendan may improve right ventricular dysfunction which is a common comorbidity in patients with pulmonary hypertension. While none of these studies have focused specifically on PH-HFpEF patients, the general hemodynamic improvements in these published studies of various types of pulmonary hypertension provide an indication that levosimendan may be beneficial in PH-HFpEF patients.

In March 2018, we met with the United States Food and Drug Administration, or FDA, to discuss development of levosimendan in PH-HFpEF patients. The FDA agreed with our planned Phase 2 design, patient entry criteria, and endpoints. It was agreed the study could be conducted under the existing investigational new drug application with no additional nonclinical studies required to support full development. The FDA recognized there were no approved drug therapies to treat PH-HFpEF patients and acknowledged this provided an opportunity for a limited Phase 3 clinical program. This topic will be discussed further at the End-of-Phase 2 Meeting following completion of the Phase 2 study in PH-HFpEF patients, which is known as the HELP Study – **H**emodynamic **E**valuation of **L**evosimendan in **P**H-HFpEF. We initiated the first of our expected 10-12 HELP Study clinical sites in November 2018 and the first of 36 patients was enrolled in the HELP Study in March 2019. Enrollment in the HELP Study was completed in March 2020. The primary endpoint of the HELP Study is based on change in PCWP vs baseline compared to placebo. The HELP Study utilizes a double-blind randomized design following five weekly infusions of levosimendan.

On June 2, 2020, we announced preliminary, top-line data from the study. The primary efficacy analysis, pulmonary capillary wedge pressure (PCWP) during exercise did not demonstrate a statistically significant reduction from baseline. Levosimendan did demonstrate a statistically significant reduction in PCWP compared to baseline (p=<0.0017) and placebo (p=<0.0475) when the measurements at rest, with legs up and on exercise were combined. Levosimendan also demonstrated a statistically significant improvement in 6-minute walk distance (6MWD) as compared to placebo (p=0.0329).

Hemodynamic Results

Hemodynamic measurements were made at rest (supine), after leg raise on a supine bicycle (a test of rapid increase in ventricular filling) and during exercise (25 watts for 3 minutes or until the patient tired). Levosimendan demonstrated a statistically significant reduction in PCWP compared to baseline (p=<0.0017) and placebo (p=<0.0475) when the measurements at rest, with legs up and on exercise were combined. While there was no significant change in PCWP during exercise, patients receiving levosimendan had reductions from baseline at Week 6 in PCWP, pulmonary artery pressure (PAP), and right atrial pressure (RAP) that were significant when patients were “at rest” and/or with their “legs raised” (p<0.05).

Clinical Results (6 Minute Walk Distance)

The clinical efficacy was confirmed by a statistically significant improvement in 6-minute walk distance of 29 meters. (p=0.0329). The 6-minute walk distance was a secondary endpoint in the trial and is a validated and accepted endpoint used in many pulmonary hypertension registration trials. Levosimendan was given in once-weekly home infusions for 6 weeks.

Safety

The incidence of AEs or SAEs between the control and treated groups were similar. In addition, there were no arrhythmias observed, atrial or ventricular, when comparing baseline electrocardiographic monitoring with 72-hour monitoring after 5 weeks of treatment.

We plan to present the full study results at future medical meetings and will submit a full manuscript of the trial results to a peer-reviewed journal.

Intellectual Property

We rely on a combination of patent applications, patents, trade secrets, proprietary know-how, trademarks, and contractual provisions to protect our proprietary rights. We believe that to have a competitive advantage, we must develop and maintain the proprietary aspects of our technologies. Currently, we require our officers, employees, consultants, contractors, manufacturers, outside scientific collaborators and sponsored researchers, and other advisors to execute confidentiality agreements in connection with their employment, consulting, or advisory relationships with us, where appropriate. We also require our employees, consultants, and advisors who we expect to work on our products to agree to disclose and assign to us all inventions conceived during the workday, developed using our property, or which relate to our business.

To date, we own or in-license the rights to six U.S. and foreign patents. In addition, we have one U.S. patent application pending related to a product candidate and proprietary process, method and technology. Our issued and in-licensed patents, as well as our pending patents, expire between 2023 and 2038.

We have:

- one U.S. patent (8,404,752), one Australian Patent (209,271,530) and one European patent (EPO9798325.8) held jointly with Virginia Commonwealth University Intellectual Property Foundation for the treatment of traumatic brain injury;
- one Israeli patent (215516) and numerous patent applications, including one U.S. patent application, for the formulation of perfluorocarbon emulsion with an average remaining life of approximately 13 years; and
- two U.S. patents (6,730,673 and 6,943,164) for the intravenous formulation of levosimendan as in-licensed patent rights for our development and commercialization of levosimendan in the United States and Canada.

Our patent and patent applications include claims covering all various uses of levosimendan, our lead product candidate currently under development, as well as the manufacturing and use of our perfluorocarbon emulsion formulation. We have filed a patent application for a subcutaneous formulation of levosimendan that we have developed in collaboration with a formulation development partner. In addition, we have filed a provisional patent application for the use of levosimendan in the treatment of PH-HFpEF patients based on several discoveries that have emerged from the HELP Study. The HELP Study is the first and only trial to evaluate the use of levosimendan to treat PH-HFpEF patients, a patient population where all previously tested therapies have failed to show effectiveness.

The U.S. trademark registration for Simdax® is owned by Orion and is licensed to us for sales and marketing purposes for any pharmaceutical products containing levosimendan that are commercialized in the United States and Canada.

Recent Developments

On July 6, 2020, we entered into a Securities Purchase Agreement for Class C and Class D Units, or the RDO Purchase Agreement, with an institutional investor, or the Investor, and a Securities Purchase Agreement for Class E and Class F Units, or the PIPE Purchase Agreement, and, together with the RDO Purchase Agreement, the Purchase Agreements, pursuant to which we agreed to issue in a registered direct offering 2,523,611 shares of our common stock, $0.0001 par value per share, at a purchase price of $1.02780 per share and pre-funded warrants, or the Registered Pre-Funded Warrants, to purchase up to 652,313 shares of common stock at a purchase price of $1.02770 per Registered Pre-Funded Warrant, and issue in a concurrent private placement unregistered pre-funded warrants, or the Unregistered Pre-Funded Warrants, to purchase up to 4,607,692 shares of common stock at the same purchase price as the Registered Pre-Funded Warrants, and unregistered common stock warrants, or the Unregistered Warrants, to purchase up to 7,783,616 shares of common stock (such registered direct offering and private placement are collectively referred to as the Offerings). The aggregate gross proceeds to us of the Offerings was approximately $8.0 million.

The Registered Pre-Funded Warrants and the Unregistered Pre-Funded Warrants have an exercise price of $0.0001 per share of common stock, are immediately exercisable, may be exercised at any time until exercised in full and are subject to customary adjustments. The Unregistered Warrants have an exercise price of $0.903 per share of common stock, are immediately exercisable, will expire five and one-half years from the date of issuance and are subject to customary adjustments.

The Registered Pre-Funded Warrants, the Unregistered Pre-Funded Warrants and Unregistered Warrants may not be exercised if the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) would exceed 19.99% of our outstanding common stock immediately after exercise. However, the holder may increase or decrease such percentage, provided that in no event such percentage exceeds 19.99%, upon at least 61 days' prior notice from the holder to us.

We intend to use the net proceeds from the Offerings to further our clinical trials of levosimendan, for research and development and for general corporate purposes, including working capital and potential acquisitions.

Also on July 6, 2020 and in connection with the private placement, we entered into a registration rights agreement, or the Registration Rights Agreement, with the Investor, pursuant to which we agreed to register for resale the shares of our common stock issuable upon exercise of the Unregistered Pre-Funded Warrants and the Unregistered Warrants (collectively referred to as the Unregistered Warrant Shares). Under the Registration Rights Agreement, we agreed to file a registration statement covering the resale by the Investor of the Unregistered Warrant Shares within 60 days following the date of the Registration Rights Agreement.

Under certain circumstances, including, but not limited to, (i) if the registration statement is not filed within the time period specified above or (ii) if the registration statement has not been declared effective (A) by the 120th day after the date of the Registration Rights Agreement (or, in the event of a "full review" by the SEC, the 150th day after the date of the Registration Rights Agreement) or (B) within five trading days following the date we are notified by the SEC that the registration statement will not be reviewed or is no longer subject to further review and comments then we have agreed to pay the Investor, as partial liquidated damages, an amount equal to 1.0% of the Investor's aggregate subscription amount paid pursuant to the PIPE Purchase Agreement.

Pursuant to the terms of the PIPE Purchase Agreement, we agreed to appoint to our Board of Directors two directors designated in writing by a majority in interest of the purchasers named therein, or the Designor, following the closing of the Offerings. In the event the Designor beneficially holds less than 19.90% but more than 9.99% of our issued and outstanding common stock, then the Designor shall have the right to designate only one director. On July 20, 2020, Steven J. Boyd and Keith Maher, MD were appointed to our Board of Directors.

The Offering

Common Stock Offered by Selling Stockholders:	14,958,874 shares
Use of Proceeds:	Tenax Therapeutics will not receive any proceeds from the sale of our shares of common stock by the selling stockholders, although we will receive proceeds from the exercise price of any warrants exercised on a cash basis. We intend to use those proceeds, if any, for working capital and general corporate purposes.
Risk Factors:	Investing in our common stock involves a high degree of risk. See “Risk Factors” and other information contained in this prospectus or otherwise incorporated by reference before deciding to invest in shares of our common stock.
Nasdaq Capital Market Symbol:	Our common stock is listed on the Nasdaq Capital Market under the symbol “TENX.”

RISK FACTORS

An investment in any securities offered pursuant to this prospectus and any applicable prospectus supplement is speculative and involves a high degree of risk. You should carefully consider the risk factors described below and incorporated by reference into our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in any applicable prospectus supplement, before acquiring any of such securities. If any of the risks actually occur, our business, results of operations, financial condition, and prospects could be materially adversely affected, the trading price of our common stock could decline significantly, and you might lose all or part of your investment. You should also refer to our financial statements and the notes to those statements, which are incorporated by reference into this prospectus.

Our bylaws contain an exclusive forum provision, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees, or agents.

Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, any North Carolina state court that has jurisdiction, or the Delaware Court of Chancery shall, to the fullest extent permitted by law, be the sole and exclusive forum any internal corporate claims, including without limitation (a) any derivative action or proceeding brought on behalf of us, (b) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of us to us or our stockholders, (c) any action asserting a claim arising pursuant to any provision of the General Corporation Law of the State of Delaware, and (d) any action asserting a claim governed by the internal affairs doctrine, in each case subject to said court having personal jurisdiction over the indispensable parties named as defendants in such action.

For the avoidance of doubt, the exclusive forum provision described above does not apply to any claims arising under the Securities Act or the Exchange Act. 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, and Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder.

The exclusive forum provision in our bylaws may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers, employees, or agents, which may discourage such lawsuits against us and our directors, officers, employees, and agents even though an action, if successful, might benefit our stockholders. The applicable courts may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments or results may be more favorable to us than to our stockholders. With respect to the provision making the state courts of North Carolina with jurisdiction or the Delaware Court of Chancery the sole and exclusive forum for certain types of actions, stockholders who do bring a claim in North Carolina state court or in the Delaware Court of Chancery could face additional litigation costs in pursuing any such claim, particularly if they do not reside in or near North Carolina or Delaware. Finally, if a court were to find this provision of our bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could have a material adverse effect on us.

USE OF PROCEEDS

We will not receive any proceeds from the sale of common stock by the selling stockholders. To the extent we receive proceeds from the exercise of warrants held by the selling stockholders, we will use those proceeds for working capital and other general corporate purposes.

The selling stockholders will pay any underwriting discounts and commissions and expenses they incur for brokerage, accounting, tax, or legal services, or any other expenses they incur in disposing of their shares. We will incur certain expenses in connection with the registration with the SEC of the shares of our common stock to be sold by the selling stockholders.

SELLING STOCKHOLDERS

This prospectus covers the resale from time to time by the selling stockholders identified in the table below of up to 14,958,874 shares of common stock, which include:

- 12,391,308 shares issuable upon exercise of the Unregistered Pre-Funded Warrants and Unregistered Warrants sold in the private placement described under “Summary—Recent Developments” above, or the July Warrants;
- 2,360,313 shares issuable upon exercise of a warrant sold in a private placement in March 2020, or the March Warrant; and
- 207,253 shares issuable upon exercise of warrants issued to Ladenburg Thalmann & Co. Inc., the underwriter for our December 2018 public offering of Series A convertible preferred stock and warrants.

Except as described in this “Selling Stockholders” section and under “Summary—Recent Developments,” the selling stockholders have not had any material relationship with us within the past three years. The names of any additional selling stockholders and information about their holdings and any offering of the shares by them will be set forth in one or more prospectus supplements.

The table below lists the selling stockholders and other information regarding the beneficial ownership of the shares of common stock by each of the selling stockholders. The second column lists the number of shares of common stock beneficially owned by each selling stockholder, based on its ownership of the shares of common stock and warrants, as of September 8, 2020, assuming exercise of the warrants held by the selling stockholders on that date, without regard to any limitations on exercises.

The third column lists the shares of common stock being offered by this prospectus by the selling stockholders. This prospectus generally covers the resale of the maximum number of shares of common stock issuable upon exercise of the related warrants, determined as if the outstanding warrants were exercised in full as of the trading day immediately preceding the date this registration statement was initially filed with the SEC, each as of the trading day immediately preceding the applicable date of determination and all subject to adjustment, without regard to any limitations on the exercise of the warrants. The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

Under the terms of the warrants, a selling stockholder may not exercise the warrants to the extent such exercise would cause such selling stockholder, together with its affiliates and attribution parties, to beneficially own a number of shares of common stock which would exceed 19.99%, in the case of the July Warrants, or 4.99%, in the case of the March Warrant and the warrant issued to Ladenburg Thalmann & Co., Inc., of our then outstanding common stock following such exercise, excluding for purposes of such determination shares of common stock issuable upon exercise of the warrants which have not been exercised. The number of shares in the second column does not reflect this limitation. The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

Name of Selling Security Holder	Number of Shares of Common Stock Owned Prior to Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of Shares of Common Stock Owned After Offering	Percentage of Common Stock Owned After Offering (1)
Armistice Capital Master Fund, Ltd. (2)	21,569,005	14,751,621	6,817,384	54%
Ladenburg Thalmann & Co., Inc.	311,344	207,253	104,091	*

* Less than 1%

(1) As of September 29, 2020, there were 12,619,369 shares of our common stock outstanding.

(2) Steven J. Boyd is the chief investment officer and Keith Maher, MD is the managing director of Armistice Capital, LLC, which is the investment manager of Armistice Capital Master Fund, Ltd. Mr. Boyd and Dr. Maher are members of our Board of Directors. Each of Armistice Capital, LLC, Mr. Boyd and Dr. Maher disclaims beneficial ownership of the listed securities except to the extent of their pecuniary interest therein.

PLAN OF DISTRIBUTION

Each selling stockholder of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the principal The Nasdaq Stock Market LLC or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A selling stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities 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;
- settlement of short sales;
- in transactions through broker-dealers that agree with the selling stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

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

The selling stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

We are required to pay certain fees and expenses incurred by us incident to the registration of the securities. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the selling stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information requirement under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

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

LEGAL MATTERS

The validity of our securities issuable hereunder and certain other legal matters have been passed upon for us by K&L Gates LLP, Raleigh, North Carolina.

EXPERTS

The consolidated financial statements of Tenax Therapeutics, Inc. as of December 31, 2019 and 2018, and for each of the years in the two-year period ended December 31, 2019, included in our Annual Report on Form 10-K, have been incorporated by reference herein in reliance upon the report of Cherry Bekaert LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting in auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual reports, quarterly reports, current reports, and proxy and information statements and other information with the SEC. Copies of reports and other information from us are available on the SEC's website at http://www.sec.gov. Such filings are also available at our website at http://www.tenaxthera.com. Our website and the information contained therein or connected thereto are not part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" in this prospectus the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The following documents filed with the SEC are hereby incorporated by reference in this prospectus:

- Our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 30, 2020;
- The information specifically incorporated by reference into our Annual Report on Form 10-K from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 29, 2020;
- Our Quarterly Reports on Form 10-Q for the quarterly period ended March 31, 2020, filed with the SEC on May 15, 2020, and for the quarterly period ended June 30, 2020, filed with the SEC on August 14, 2020;
- Our Current Reports on Form 8-K filed with the SEC on January 13, 2020, March 13, 2020, April 29, 2020, May 6, 2020, June 2, 2020, June 2, 2020, June 18, 2020, July 8, 2020 and July 20, 2020; and
- The description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on January 11, 2010, and any amendments or reports filed for the purpose of updating such description.

In addition, all documents we subsequently filed pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act, including prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold and also between the date of the registration statement that contains this prospectus and prior to effectiveness of such registration statement, shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing of such documents. However, any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed "filed" with the SEC, including without limitation any information furnished pursuant to Item 2.02 or 7.01 of Form 8-K or certain exhibits furnished pursuant to Item 9.01 of Form 8-K, shall not be deemed to be incorporated by reference in this prospectus.

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

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference herein, other than exhibits to such documents that are not specifically incorporated by reference therein. All requests should be sent to the attention of Nancy Hecox, Vice President of Legal Affairs and General Counsel, Tenax Therapeutics, Inc., ONE Copley Parkway, Suite 490, Morrisville, North Carolina 27560 or made via telephone at (919) 855-2100.

Copies of the documents incorporated by reference may also be found on our website at http://www.tenaxthera.com.

14,958,874 Shares of Common Stock

PROSPECTUS
