Risk Factors Comparison 2025-03-25 to 2024-03-28 Form: 10-K

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Risks Related to Our Business and Operations • We are limited in the number of products we can simultaneously pursue and therefore our survival depends on our success with a small number of product opportunities, and in particular, oral levosimendan as our prioritized product candidate. • We currently have no approved drug products for sale, and we cannot guarantee that we will ever have marketable drug products. • We are required to conduct additional clinical trials, including the LEVEL and LEVEL- 2 trials for oral levosimendan, which are expensive and time consuming, and the outcomes of the clinical trials are uncertain. • Delays in the enrollment and completion of clinical testing could result in increased costs to us and delay or limit our ability to obtain regulatory approval of our product candidates. • The market may not accept our products. • Nonfinal results from our clinical trials announced or published from time to time on an interim, preliminary, or " top- line " basis, and conclusions that may be drawn from such results, may change as more patient data become available, and these results are subject to audit and verification procedures that could result in material changes in the final data. • Any collaboration we enter with third parties to develop and commercialize any future product candidates may place the development of our product candidates outside our control, may require us to relinquish important rights or may otherwise be on terms unfavorable to us. Risks Related to Our Financial Position and Need for Additional Capital **•** ~~Our independent registered public accounting firm' s report includes an explanatory paragraph stating that there is substantial doubt about our ability to continue as a going concern. As a result of our historical operating losses and expected future negative cash flows from operations, we have concluded that there is substantial doubt about our ability to continue as a going concern. Similarly, the report of our independent registered public accounting firm on our consolidated financial statements, included elsewhere in this Annual Report on Form 10- K, includes an explanatory paragraph indicating that there is substantial doubt about our ability to continue as a going concern. Our ability to continue as a going concern is dependent upon our ability to raise additional capital and to achieve sustainable revenues and profitable operations. Substantial doubt about our ability to continue as a going concern may materially and adversely affect the price per share of our common stock and make it more difficult to obtain financing. Our consolidated financial statements for the fiscal year ended December 31, 2023 have been prepared assuming we will continue as a going concern and do not include any adjustments that might result from uncertainty about our ability to continue as a going concern.~~ We will require substantial additional funding to further develop our product candidates, including to complete the ~~LEVEL trial, which includes an~~ open label extension **stage of our ongoing** ~~phase, to complete a subsequent~~ Phase 3 **LEVEL** trial of **levosimendan** ~~TNX- 103,~~ and **to complete a second planned global Phase 3 study, LEVEL- 2, as well as** to initiate or complete ~~the~~ **an** imatinib Phase 3 trial. Failure to obtain this necessary capital when needed on acceptable terms, or at all, or execute on **an** alternative strategic ~~paths~~ **path**, could force us to delay, limit, reduce or terminate our clinical trials, product development efforts and business operations. ~~Developing biopharmaceutical~~ **• We may be required to make milestone and royalty payments to the licensor of the levosimendan intellectual property in connection with the development and commercialization of levosimendan, which could adversely affect the profitability of levosimendan, if approved. • We expect a number of factors to cause our operating results to fluctuate on a quarterly and annual basis, which may make it difficult to predict our future performance. • We have incurred losses since our inception, expect to continue to incur losses in the foreseeable future, and may never become profitable. Risks Relating to Our Industry • Intense competition might render our product candidates noncompetitive or obsolete. • Our activities are, and will continue to be, subject to extensive government regulation, which is expensive and time consuming, and we will not be able to sell our** products **without regulatory approval. • We may not receive all of the anticipated market exclusivity benefits of imatinib' s orphan drug designation** , ~~including~~ **if we prioritize imatinib' s development in the future. • Even after products are commercialized, we would expect to spend considerable time and money complying with federal and state laws and regulations governing their sale, and, if we are unable to fully comply with such laws and regulations, we could face substantial penalties. • We are subject to uncertainty relating to healthcare reform measures and reimbursement policies that, if not favorable to our products, could hinder or prevent our products' commercial success, if any of our product candidates are approved. • Governments outside the United States tend to impose strict price controls and reimbursement approval policies, which may adversely affect our prospects for generating revenue outside the United States. • Product liability lawsuits against us could cause us to incur substantial liabilities and limit commercialization of any products that we may develop. • Our business and operations would suffer in the event of computer system failures, cyber- attacks or deficiencies in our cybersecurity. Risks Related to Our Dependence on Third Parties • We have historically relied on and we will continue to rely on third parties substantially to** ~~conducting~~ --- **conduct our nonclinical testing and** ~~preclinical~~ --- **clinical** studies and ~~clinical trials~~ **other aspects of our development programs. If those third parties do not satisfactorily perform their contractual obligations or meet anticipated deadlines, the development of our product candidates could be adversely affected. • We depend on third parties to formulate** and ~~establishing manufacturing~~ **manufacture our products. • If we fail to attract** and ~~sales~~ **retain senior management** and **key scientific personnel, we may be unable to successfully develop and commercialize our product candidates. • We expect to need to increase the size of our organization to further develop our product candidates, and we may experience difficulties in managing growth. • We currently have very little** marketing capabilities ~~, is expensive~~ **and no sales organization** . ~~We expect~~ **If we are unable to establish sales and marketing capabilities on our own** ~~our~~ **or through third parties** ~~research and development expenses to continue to increase in connection with our ongoing activities. In~~

addition , **we will be unable to successfully commercialize** our **products,** expenses could increase beyond expectations if **approved** applicable regulatory authorities , **or generate** including the FDA, require that we perform studies additional to those we currently anticipate, in which case the timing of any potential product **revenue** approval may be delayed . **Risks Related to Intellectual Property • Our success will depend in part** As of December 31, 2023, we had $ 9. 8 million of cash and cash equivalents on **obtaining** hand - **and maintaining effective patent and other intellectual property protection for** . We will need substantial additional capital in order to develop our product candidates **and proprietary technology. • We rely on confidentiality agreements that** , including **if breached, may be difficult** to complete the LEVEL **enforce and could have a** trial **material adverse effect on** and its associated open label extension, a Phase 3 trial of TNX- 103, and to complete the regulatory approval process and commercialization of levosimendan, and, potentially, imatinib, or **our** any future product candidates **business and competitive position** . As **• We may incur substantial costs as** a result **of litigation** , we continue to evaluate strategic alternatives, including pursuing additional public or private equity offerings, debt financings or corporate collaboration and licensing arrangements. Such funding may not be available on favorable terms, if at all. In addition, to the extent that we raise additional funds by issuing equity securities, our - **or** stockholders may experience additional significant dilution;..... and cost of our clinical trials and other **proceedings relating to** research and development activities; • the number of investigator sites and patients who participate and the impact that factors such as the rate of patient recruitment, the standard deviation of treatment effect, and the number of patients who have events or withdraw from therapy, have on the expected timelines and the eventual required number of patients enrolled for each of our clinical programs; • the costs and timing of regulatory approval; • the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights **and we may be unable to protect our rights to, or use, our technology. • Under current law, we may not be able to enforce all employees' covenants not to compete. • We may infringe or be alleged to infringe intellectual property rights of third parties. Risks Related to Owning Our Common Stock • Our share price has been volatile, and may continue to be volatile, which may subject us to securities class action litigation in the future. • Investors may experience dilution of their ownership interests because of the future issuance of additional shares of our common stock or securities convertible into common stock. • Anti- takeover provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult, which could discourage takeover attempts and lead to management entrenchment, and the market price of our common stock may be lower as a result. • Our Bylaws contain an exclusive forum provision for certain disputes, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees, or agents. • We have not paid cash dividends in the past and do not expect to pay dividends in the future. Any return on investment may be limited to the value of our common stock. • Our ability to use our net operating loss carryforwards and certain other tax attributes to offset future taxable income may be subject to certain limitations. ITEM 1 — BUSINESS Overview Tenax Therapeutics is a clinical- stage pharmaceutical company using clinical insights to develop novel cardiopulmonary therapies. We employ a clinician-focused drug development approach, led by key opinion leaders and heart failure experts and informed by their clinical insights to precisely target disease pathophysiology. We are currently actively conducting the LEVEL clinical trial to evaluate levosimendan as our prioritized product candidate and have deprioritized a Phase 3 clinical trial of imatinib, two drugs supported by promising evidence that they may significantly improve the lives of patients with pulmonary hypertension. Importantly, both levosimendan and imatinib have already been approved in other indications and prescribed around the world for more than 20 years, and we believe their mechanisms of action are uniquely suitable to target and treat pulmonary hypertension. We believe this derisked approach of using already- approved drugs that provide well- established safety profiles from millions of patients, combined with a development path led by preeminent cardiology and pulmonary hypertension experts, puts us in a strong position to deliver breakthrough cardiopulmonary therapies designed to improve patients' function and quality of life. In August 2024, we closed a private placement financing (the " August 2024 Offering ") raising gross proceeds of approximately $ 100. 0 million and in March 2025 we closed a private placement financing (the" March 2025 Offering ") raising gross proceeds of $ 25. 0 million. We intend to use the net proceeds from the August 2024 and March 2025 Offerings to advance our Phase 3 oral levosimendan program, by completing our ongoing Phase 3 LEVEL study and initiating a second planned global Phase 3 study, LEVEL- 2. We intend to submit marketing authorization applications following completion of the two Phase 3 trials of levosimendan and, when appropriate, a single Phase 3 trial of imatinib. Our Strategy The key elements of our business strategy are outlined below. Efficiently conduct clinical development to establish clinical proof of principle in new indications, refine dosage levels and dosing strategies, conduct other required clinical and nonclinical testing as FDA and other regulators may require, and continue Phase 3 testing of oral levosimendan, as our prioritized product candidate. Levosimendan and imatinib have already been approved and prescribed in other indications in many countries around the world. We are conducting clinical development with the intent to establish proof of beneficial activity in cardiopulmonary diseases in which these therapeutics would be expected to have benefit for patients with diseases for which either no pharmaceutical therapies are approved at all, or in the case of pulmonary arterial hypertension, where numerous, expensive therapies generally offer a modest reduction of symptoms. Our focus is primarily on designing and executing formulation improvements, protecting these innovations with patents and other forms of exclusivity, and employing innovative clinical trial science to establish a robust foundation for subsequent development, product approval, and commercialization. We intend to submit marketing authorization applications following two Phase 3 trials of levosimendan, as our prioritized drug candidate. Our trials are designed to incorporate and reflect advanced clinical trial design science and the regulatory and advisory experience of our team. We intend to continue partnering with innovative companies, renowned biostatisticians and trialists, medical leaders, formulation and regulatory experts, and premier preclinical and clinical testing organizations to help expedite development, and continue expanding into**

complementary areas when opportunities arise through our development, research, and discoveries. We also intend to continue outsourcing to clinical research organizations, and seeking and acting upon the advice of preeminent scientists focused on cardiovascular and pulmonary drug development, when designing and executing our research. Efficiently explore new high- potential therapeutic applications, in particular where expedited regulatory pathways are available, leveraging third- party research collaborations and our results from related areas. Levosimendan has shown promise in multiple disease areas during its development and in the more than two decades following its approval. Our own Phase 2 study and open- label extension has demonstrated that levosimendan' s property of relaxing the venous circulation, a formerly under- appreciated mechanism of action of levosimendan, brings durable improvements in exercise capacity and quality of life, as well as other clinical assessments, in patients with PH- HFpEF. The FDA has not approved a therapy for this disease. 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. We believe these factors will support approval by the FDA of this product candidate based on positive Phase 3 data. Through our agreement with our licensor, Orion Corporation, we have access to a library of ongoing and completed trials and research projects, including certain documentation, which we believe, in combination with positive Phase 3 data we hope to generate in at least one indication, will support FDA approval of levosimendan. In order to achieve our objective of developing this medicine for new groups of patients, we have established collaborative research relationships with investigators from leading research and clinical institutions, and our strategic partners. These collaborative relationships have enabled us to explore where our product candidate may have therapeutic relevance, gain the advice and support of key opinion leaders in medicine and clinical trial science, and invest in development efforts to exploit opportunities to advance beyond current clinical care. Continue to expand our intellectual property portfolio. Our intellectual property, as more fully described below, and the confidentiality of all our Company information is important to our business and we take significant steps to help protect its value. Our research and development efforts, both through internal activities and through collaborative research activities with others, aim to develop new intellectual property and enable us to file patent applications that cover new uses of our existing technologies, alone or in combination with existing therapies, as well as other 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, maintain our low development and business operations costs, and broaden our commercialization capabilities globally. We believe this strategy will help us 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. We also continue to position ourselves to execute upon licensing and other partnering opportunities. To do so, we need to continue to maintain our strategic direction, manage and deploy our available cash efficiently, and strengthen our collaborative research development and partner relationships. Our Pipeline and Drug Candidates Pulmonary hypertension in heart failure with preserved ejection fraction (" PH- HFpEF ") is the most common form of pulmonary hypertension in the world, according to the World Health Organization. Prevalence in the United States is currently estimated to be 1. 5 million, although PH- HFpEF may be significantly underdiagnosed because diagnosis typically requires catheterization. Currently, there are no therapies approved for treatment of PH- HFpEF. Even though many therapies have been studied in this indication in the past, none have proven to be effective in treating patients with the disease. Levosimendan is a novel, first- in- class K- ATP activator and calcium sensitizer developed for intravenous use in hospitalized patients with acutely decompensated heart failure. It has been granted market authorization in 60 countries for use in this indication, although it is not available in the United States or Canada. It is estimated that over 2. 2 million patients have been treated worldwide with levosimendan to date. In the countries where it is marketed, intravenous levosimendan is indicated for the short- term treatment of acutely decompensated 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 patient symptoms as well as acute hemodynamic measurements such as increased cardiac output, reduced preload and reduced afterload. The therapeutic effects of levosimendan are mediated through: • Opening of potassium channels in the vasculature smooth muscle, resulting in a vasodilatory effect on all vascular beds ; • ~~the~~ **Increasing cardiac contractility by calcium sensitization of troponin C, resulting in a positive inotropic** effect ~~of competing technological and market developments~~ **which is not associated with substantial increases in oxygen demand ;** **and** • **Opening of mitochondrial potassium channels in cardiomyocytes, resulting in a cardioprotective effect. Several studies have demonstrated that levosimendan protects the heart and improves tissue perfusion while minimizing tissue damage during cardiac surgery. Importantly, several published studies provide evidence that levosimendan may improve right ventricular dysfunction, a common comorbidity in patients with pulmonary hypertension. While none of** ~~the~~ **these** ~~terms~~ **studies focused specifically on PH- HFpEF patients, the general hemodynamic improvements in these published studies of various types of pulmonary hypertension provide a basis for further evaluation of potential clinical benefit in PH- HFpEF. Phase 2 HELP Study Insights from published studies led us to initiate the HELP Study (" Hemodynamic Evaluation of Levosimendan in PH- HFpEF), a Phase 2, double- blind, randomized, placebo- controlled clinical study to evaluate the efficacy and safety of intravenous levosimendan (" TNX- 101 ") in patients with PH- HFpEF. The primary endpoint of the HELP Study was change from baseline in pulmonary capillary wedge pressure (" PCWP ") during exercise, along with various other secondary endpoints. The first patient was enrolled in the study in March 2019, and the enrollment and dosing of 44 patients was completed in March 2020. The HELP Study design was novel in several respects. To date, no other multi- center study has evaluated levosimendan in PH- HFpEF patients. Instead, all previous levosimendan heart failure studies have enrolled patients with heart failure with reduced ejection**

fraction (“ HFrEF ”), thereby excluding HFpEF patients from the study. Also, the HELP Study utilized a unique 24- hour weekly infusion regimen of 0. 075- 0. 1µm / kg / min. Finally, the HELP Study employed a unique home- based intravenous infusion administration via an ambulatory infusion pump. This home- based weekly intravenous administration is unlike all other chronic dosing studies of levosimendan that have typically employed a shorter duration and less frequent infusion regimen administered in a hospital setting. In June 2020, we announced preliminary, top- line data from the HELP study. 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 three minutes or until the patient tired). In the initial open- label phase, 84 % of the patients responded to the degree required by the protocol in order to be randomized (including reduction of PCWP of at least 4mm Hg at exercise). In the randomized, placebo- controlled, double- blinded 6- week trial, levosimendan did not demonstrate a statistically significant reduction from baseline in PCWP during exercise, the primary endpoint. However, patients receiving levosimendan had statistically significant reductions from baseline at Week 6 in PCWP and PAP at rest or after leg raise (p < 0. 05). Furthermore, the study demonstrated a statistically significant reduction in PCWP compared to baseline (p = < 0. 0017) and placebo (p = < 0. 0475) when the three patient measurements (i. e., at rest, with legs up, and during exercise) were combined. Levosimendan also demonstrated a statistically significant improvement in the change in 6- minute walk distance (“ 6MWD ”), a secondary end- point commonly used in many pulmonary hypertension registration trials. Clinical efficacy was confirmed by a statistically significant improvement in 6- minute walk distance of 29 meters (p = 0. 0329). The incidence rate of adverse events or serious adverse events between the treatment and placebo groups was similar. In addition, there were no arrhythmias observed, atrial or ventricular, when comparing baseline electrocardiographic monitoring with 72- hour monitoring after five weeks of treatment. Detailed results from HELP Study were presented at the Heart Failure Society of America Virtual Annual Scientific Meeting in October 2020, at the American Heart Association Scientific Sessions in November 2020, and more recent scientific congresses. Open- Label Extension Study of Oral Levosimendan (TNX- 103) Following completion of the randomized treatment phase of the HELP Study, patients were able to enter an open- label extension study (“ OLE ”) to evaluate the safety and efficacy of an oral formulation of levosimendan (“ TNX- 103 ”). Patients who agreed to participate in the OLE were safely transitioned from intravenous to oral formulation in late 2021, and the study was continued by the Company and our HELP investigators for over two years, concluding in the first half of 2023. Positive signs of efficacy were observed across all measured parameters during the OLE, which provided us with sufficient data to discuss further development of oral levosimendan with the U. S. Federal Drug Administration (the" FDA"). The transition of patients in the OLE from intravenous to oral formulation occurred safely. Improvements in all measures of efficacy taken in the transition from intravenous to 3mg daily oral levosimendan were observed. We believe these findings from the HELP Study and the OLE represent important discoveries related to the use of levosimendan in PH- HFpEF patients. Not only is it the first study to evaluate levosimendan in PH- HFpEF patients, but to our knowledge it is also the first study conducted of any therapy in PH- HFpEF patients to show such positive improvements in hemodynamics and 6MWT. Taken together, the encouraging data to date demonstrate that levosimendan’ s property of relaxing the venous circulation, a formerly under- appreciated mechanism of action of levosimendan, brings durable improvements in exercise capacity and quality of life, as well as other clinical assessments, in patients with PH- HFpEF. Phase 3 LEVEL Study In October 2020, we met with the FDA for an End- of- Phase 2 Meeting to discuss the Phase 2 clinical data and further development of levosimendan in PH- HFpEF. Subsequently, a path to registration was agreed upon involving two confirmatory Phase 3 studies, as well as a plan to replace weekly intravenous levosimendan dosing with daily oral levosimendan doses in the upcoming clinical trials. In February 2022, the FDA provided a written response advising that the safety database required for filing a New Drug Application (“ NDA ”) only needs to meet two of the three minimum International Clinical Harmonization (“ ICH ”) standards for a chronic medication in treating a non- life- threatening condition: 300 patients treated for 6 months, and 100 patients treated for 12 months. Tenax plans to continue to discuss with the FDA and other global regulators this requirement and other requirements that will determine the size and timing of ~~any collaboration~~ **its completed Phase 3 program** , **throughout** ~~licensing or other~~ -- **the** ~~arrangements~~ **execution of its Phase 3 program. On November 13, 2023, the Company announced** that ~~we may establish; • the cost~~ **FDA had reviewed** and ~~timing~~ **cleared the Company’ s Investigational New Drug (“ IND ”) application for oral levosimendan for the treatment PH- HFpEF, enabling Tenax to proceed with the first** of ~~completion~~ **two Phase 3 studies. In the fourth quarter** of **2023, we initiated the LEVEL Study (LEVosimendan to Improve Exercise Limitation in PH- HFpEF Patients), a Phase 3, randomized, double- blind, placebo- controlled** clinical ~~and commercial~~ **trial to evaluate TNX** - ~~scale manufacturing activities; and • the costs of establishing sales~~ **103 in patients with PH- HFpEF. The primary endpoint is change in 6MWT from baseline to Week 12. A second global Phase 3 study** , ~~marketing~~ **LEVEL- 2, is expected to initiate in 2025, with the primary endpoint being change in 6MWT from baseline to Week 26. With the net proceeds from the August 2024 Offering** and **the March 2025 Offering,** ~~distribution capabilities for any product candidates for which~~ we ~~may receive regulatory approval~~ **plan to accelerate the Phase 3 program. Site activation and the enrollment of participants are ongoing in the Phase 3 LEVEL study** . We also expect to ~~continue our evaluation~~ **initiate a second Phase 3 study, LEVEL- 2, in 2025. In addition, we are planning an OLE phase following the completion** of **the randomized phase to treat patients under protocol on open label levosimendan, allowing for** additional **weeks** ~~strategic alternatives, including a sale~~ of ~~our Company, merger,~~ **safety observation that will contribute to** ~~other~~ -- **the** ~~business combination, or recapitalization~~ **safety data on TNX- 103** . ~~In the event we~~ **PAH Pulmonary arterial hypertension (PAH) is a type of pulmonary hypertension and a rare, progressive, and serious disease. Although several therapies** are **now available, none are cures** ~~unable to obtain additional capital as needed or for execute on other~~ -- **the** ~~strategic alternatives~~ **disease and patients remain symptomatic with high morbidity and**

mortality. Importantly , all ~~we may further delay, limit, reduce or terminate our current~~ **currently approved PAH therapies are pulmonary vasodilators** ~~development efforts and business operations. 17Our ongoing exploration of alternative strategic paths may not result in entering into or completing transactions~~ , ~~when necessary,~~ and ~~the process of reviewing alternative strategic paths or their~~ **there** ~~conclusion could adversely affect our stock price. We continue to evaluate strategic paths to provide the resources necessary to complete our product development and maximize stockholder value. Potential strategic paths may include additional capital raises, a sale of our Company, merger, one or more license agreements, a co- development agreement, a combination of these, or other strategic transactions. There can be no assurance, however, that our evaluation will result in transactions or other alternatives, even when deemed necessary. There~~ is no ~~set timetable~~ **data supporting that these types of treatments halt progression or induce regression of the disease. Imatinib Imatinib (marketed in the United States as Gleevec ®) is a tyrosine kinase inhibitor. It is the first curative treatment** for ~~our strategic process~~ **chronic myeloid leukemia (" CML ") and has significantly impacted patients since receiving FDA approval in 2001. Separately, imatinib has been shown in animal models of pulmonary hypertension to induce disease reversal by affecting platelet derived growth factor, which may be causal in the disease. Several case reports and small case series of patients with advanced PAH failing combination pulmonary vasodilator therapy that were treated with imatinib were subsequently published, showing dramatic effects on disease stabilization and improvements in symptom and function. These results led Novartis to develop imatinib as a treatment of PAH. Novartis sponsored a Phase 2 proof- of- concept trial to evaluate the safety, tolerability, and efficacy of imatinib as** ~~and~~ **an adjunct** ~~we do not intend~~ to **PAH-** ~~provide updates unless or until the Board of Directors approves a~~ specific ~~action~~ **therapy in patients with PAH. Novartis then sponsored a Phase 3 trial (IMPRES) which met its primary endpoint of significant increase in 6MWT (32 meters, p = 0. 002), an effect maintained in an extension study in patients remaining on imatinib. However, the data were confounded by a high rate of dropouts in the patients randomized to imatinib, attributed largely to gastric intolerance during the first eight weeks in the study. Consequently, Novartis chose to withdraw the IND application. On May 30, 2019, PHPrecisionMed Inc. (" PHPM ") met with the FDA to discuss a proposal** ~~or~~ **for** ~~otherwise determines~~ **a Phase 3 trial of imatinib in PAH using change in 6MWT as the primary endpoint. PHPM received agreement for submission under the 505 (b) (2) regulatory pathway, and thereafter received orphan designation. In July 2020, PHPM received agreement from the FDA for the development of a modified release formulation** that ~~disclosure is appropriate~~ **would require only a small comparative pharmacokinetic and bioavailability study. In January 2021, Tenax acquired PHPM and renamed the modified release formulation of imatinib TNX- 201. Given** ~~or~~ **our** ~~necessary. We~~ **prioritization of the LEVEL trials, we** have suspended plans to launch ~~the~~ **an** imatinib Phase 3 trial ~~in PAH, and the initiation~~ **. 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 ~~trial~~ **to have a competitive advantage, we must develop** and ~~continued~~ **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 employees, consultants, and advisors whom we expect to work on our products to agree to disclose and assign to us all inventions conceived during the workday,** ~~development~~ **developed using our property, or which relate to our business. As** of **the date of this filing, the Company has been granted** ~~our~~ **four patents, all related to** product candidates **and proprietary process , method and technology. Our issued levosimendan patents expire in 2039 and late 2040. On January 4, 2022, we received a patent for the subcutaneous administration of levosimendan (TNX- 102), whether through the prototype formulation we have developed in collaboration with a formulation development partner, or other subcutaneous formulations meeting certain broad characteristics defined in the patent. This patent expires in 2039. On March 21, 2023, we were granted a patent for the use of IV levosimendan in the treatment of PH- HFpEF patients. This patent expires in 2040. On July 19, 2023, the Company announced the USPTO issuance of another patent, this one** including ~~completion of~~ **claims covering** the **use** ~~LEVEL Study, our Phase 3 trial~~ of **oral** levosimendan in **patients with** PH- HFpEF **. This issued patent provides exclusivity through December 2040. On February 6 , 2024, the Company announced the fourth levosimendan USPTO patent broadening IP protection for oral, I. V., and subcutaneous use of levosimendan and its active metabolites in PH- HFpEF, at all therapeutic doses and in combination with various cardiovascular drugs. The Company also has multiple patent applications pending in Europe and other countries the for the treatment of PH- HFpEF, for oral and combination products. The U. S. trademark registration for Simdax ® is owned by Orion Corporation (" Orion") and is licensed to us for sales and marketing purposes for any intravenous pharmaceutical products containing levosimendan that are commercialized in the United States and Canada. Our success will in part** depend on the ~~outcome~~ **ability to obtain and maintain patent and other proprietary rights in commercially important technology, inventions and know- how related to our business, the validity and enforceability** of **our patents, the continued confidentiality of our trade secrets and our ability to operate without infringing the valid and enforceable patents and proprietary rights of third parties. We also rely on continuing technological innovation and in- licensing opportunities to develop and maintain our proprietary position. We cannot be sure that patents will be granted with respect to any of our pending patent applications** ~~our~~ **or** ~~ongoing strategic process. There~~ **with respect to any patent applications we may own or license in the future, nor** can **we** be ~~no assurance~~ **sure that** any ~~transaction~~ **of our existing patents or any patents we may own or license in the future** will ~~result~~ **be useful in protecting our technology and products. Comprehensive risks related to our intellectual property are described under the heading " Risk Factors- Risks Related to Our Intellectual Property " included elsewhere in this Annual Report on Form 10- K. Simdax License Agreement On November 13, 2013, we acquired, through our wholly- owned subsidiary Life NewCo, Inc., a license agreement between Phyxius and Orion, which was later amended on October 9, 2020, January 25, 2022, and February 19, 2024 (as amended, the " License "). The License grants us an**

exclusive, sublicensable right to develop and commercialize pharmaceutical products containing levosimendan worldwide (the " Territory ") and, pursuant to the October 9, 2020 and January 25, 2022 amendments to the License, also includes two product dose forms containing levosimendan, in capsule and solid dosage ~~from~~ **form , and a subcutaneously administered product containing levosimendan, subject to specified limitations (together, the " Product "). Pursuant to the License, Tenax and Orion will agree to a new trademark when commercializing the Product in either of** ~~the~~ **these** ~~Company~~ **forms. Pursuant to the License, we have a right of first refusal to commercialize new developments of the Product, including developments as to the formulation, presentation, means of delivery, route of administration, dosage or indication but pursuant to the February 2024 amendment, excluding new applications of levosimendan developed by Orion for neurological diseases and disorders. Orion** ' s ongoing ~~evaluation~~ **role under the License includes sublicense approval, serving as the sole source** of ~~strategic paths~~ **manufacture of oral formulations of levosimendan, holding a first right to enforce Orion' s intellectual property rights outside the United States and Canada, and certain regulatory participation rights** . ~~Any~~ **Orion can notify the Company if it chooses not to exercise its right to supply oral formulations of levosimendan to the Company for commercialization in the Territory. Additionally, the Company must grant back to Orion a broad non- exclusive license to any patents or clinical trial data related to levosimendan developed by the Company under the License. As consideration for the License, we agreed to pay Orion (i) a one- time up- front payment in the amount of $ 1. 0 million, (ii) development milestones consisting of (a) $ 10. 0 million upon the grant of FDA approval of a levosimendan- based product and (b) $ 1. 0 million upon the grant of regulatory approval for the Product in Canada, (c) $ 5. 0 million due upon the grant of regulatory approval for a levosimendan- based product in Japan, (iii) non- refundable commercialization milestones aggregating to up to $ 45. 0 million, upon achievement of certain cumulative worldwide sales of the Product by the Company, and (iv) tiered royalties based on worldwide net sales of the Product. After the end of the License term, the Company must pay Orion a royalty based on net sales of the Product in the Territory for as long as the Company sells the Product in the Territory. The term of the License extends until 10 years after the launch of the Product in the Territory, provided that the License will continue after the end of the term in each country in the Territory until the expiration of Orion' s patent rights in the Product in such country. In the event that no regulatory approval for the Product has been granted in the United States on or before September 20, 2030, however, either party will have the right to terminate the License with immediate effect. Manufacturing and Supply We contract with third parties for the manufacturing of all of our product candidates and for pre- clinical and clinical studies and intend to continue to do so in the future. We do not own or operate any manufacturing facilities and we have no plans to build any owned clinical or commercial scale manufacturing capabilities. We believe that the use of third- party manufacturers and contract drug manufacturing organizations (" CMOs ") eliminates the need to directly invest in manufacturing facilities, equipment and additional employees. Pursuant to the terms of the License, Orion is contractually our sole manufacturing source for TNX- 103. We may engage other third- party suppliers and CMOs for the supply and manufacture of TNX- 102, or other formulations we may develop. We have engaged various third- party suppliers and CMOs for the supply and manufacture of imatinib for** potential ~~transaction would~~ **future clinical trials and relied on such contractors for material contributing to TNX- 201, for testing in our two completed Phase 1 trials. As we further develop our product pipeline, we expect to consider secondary or back- up manufacturers for both active pharmaceutical ingredient and drug product manufacturing. To date, our third- party manufacturers have met the manufacturing requirements for our product candidates. We expect third- party manufacturers to** be **capable of providing sufficient quantities of our product candidates to meet anticipated full- scale commercial demands, but we have not assessed these capabilities beyond the supply of clinical materials to date. We believe alternate sources of manufacturing will be available to satisfy our clinical and future commercial requirements however, we cannot guarantee that identifying and establishing alternative relationships with such sources will be successful, cost effective, or completed on a timely basis without significant delay in the development or commercialization of our product candidates. All of the vendors we use are required to conduct their operations under current Good Manufacturing Practices, a regulatory standard for the manufacture of pharmaceuticals. Competition The pharmaceutical and biotechnology industries are intensely competitive. Many companies, including biotechnology, chemical, and pharmaceutical companies, are actively engaged in activities similar to ours, including research and development of drugs for the treatment of cardiovascular, pulmonary, and related medical conditions, both rare and common. Many of these companies have substantially greater financial and other resources, larger research and development staff and more extensive marketing and manufacturing organizations than we do. In addition, some of them have considerable experience in preclinical testing, clinical trials and other regulatory approval procedures. There are also academic institutions, governmental agencies and other research organizations that are conducting research in areas in which we are working. Our success will be based in part on our ability to identify, develop and manage a portfolio of product candidates that are safer and more effective than any competing products. We believe the concept of using TNX- 101 / 102 / 103 (levosimendan) to treat patients with PH- HFpEF is novel, and the patent granted for this use in March 2023 demonstrates the USPTO' s concurrence. Because no therapies are approved to treat PH- HFpEF, we believe our ability to succeed in the market is primarily** dependent on ~~a number of factors that may be beyond our control, including, among other things, market conditions, industry trends, the interest of third parties in a potential transaction with us, obtaining stockholder approval and the availability of financing to third parties in a potential transaction with us on reasonable terms. The process of reviewing alternative strategic paths may be time consuming and may involve the dedication of significant resources and may require us to incur significant costs and expenses. It could negatively impact~~ our ability to **change** ~~attract, retain and motivate employees, and expose us to potential litigation in connection with this process or any resulting transaction. If we are unable to effectively manage~~ the ~~process~~ **established practice paradigm** , **which** ~~our financial condition and results of~~

~~operations~~ could be **difficult** ~~adversely affected~~. **Key factors on which we** ~~In addition, speculation regarding any developments related to the review of strategic alternatives and perceived uncertainties related to the future of our Company could cause our stock price to fluctuate significantly. Further, any alternative strategic paths that may be pursued and completed ultimately may not deliver the anticipated benefits or enhance stockholder value. There can be no guarantee that the process of evaluating alternative strategic paths~~ will ~~result in our Company entering into or completing potential transactions within the anticipated timing or at all. 18In the event we do not successfully complete~~ **compete with regards** ~~strategic transactions, should this be deemed necessary, our Board of Directors may decide~~ to **the development** ~~pursue a dissolution and liquidation of our Company. In such an~~ **and marketing** ~~event, the amount~~ of **levosimendan** ~~cash available~~ for **the treatment of pulmonary hypertension in** ~~distribution to our stockholders will depend heavily on the~~ **these** ~~timing of such liquidation~~ **patients include, among others, the ability to obtain adequate efficacy data, safety data, cost effectiveness data and hospital formulary approval, marketing exclusivity,** as well as **sufficient distribution and handling. Furthermore, while we believe the mechanism of action of levosimendan is novel,** ~~the~~ **other** ~~amount~~ **low- priced, generically available products possess some similar qualities, which could present competition in the form of therapeutic substitution. Other companies, including for example Astra Zeneca, Tectonic, and Merck, are currently conducting Phase 1 and Phase 2 clinical trials of potential new therapies to great PH-HFpEF. Merck' s sotatercept is approved for PAH and is being tested in a subset of PH patients with HFpEF, with a data readout predicted in 2025. These companies may be successful in their efforts to gain market approval for a product in the same patients we aim to treat with levosimendan, whether before or after we could do so. Some classes of medical therapy such as SGLT- 2 inhibitors and GLP- 1 agonists are or may be approved for use in patients with heart failure, and may or may not be developed specifically for PH- HFpEF, creating competition in the future. Some approved products to treat common conditions such as diabetes and obesity are theorized, or proven, to provide benefit in patients with heart failure, and are sometimes used in these patients, including** ~~of~~ **off** ~~cash~~ **- label. Products approved for PAH, including endothelin receptor agonists (ERAs) and phosphodiesterase type 5 (PDE5) inhibitors, even though trials have not shown benefit and have sometimes demonstrated harm, and manufacturers of which have not sought approval in patients with PH- HFpEF by filing an NDA or BLA, are nevertheless prescribed off- label by some physician who care for patients with PH associated with HFpEF, and who state in our own market research** that ~~will need~~ **they wish to provide something for patients with this disease. TNX- 201 (imatinib) has the potential** to be ~~reserved~~ **the first disease-modifying treatment of PAH, a fatal orphan disease. Pulmonary vasodilators, the only approved medications** for ~~commitments and contingent liabilities~~ **PAH, do not have disease modifying properties**. ~~There can~~ **We do not expect these products, other than one which is not widely used today, to** be ~~no guarantee~~ **contraindicated in patients taking TNX- 201, and our intended protocol design tests TNX- 201 as an additional therapy to one or more of these vasodilators. In order to compete successfully, we must develop proprietary positions in patented drugs for therapeutic markets** that **have** ~~the process to identify strategic transactions will result in successfully completed transactions when necessary. If additional transactions are~~ not **been satisfactorily addressed by conventional research strategies. Our** ~~completed that enable us to continue the development of our~~ product candidates ~~and sustain our business operations~~, ~~our Board of Directors may decide that it is in the best interest of our stockholders to dissolve our Company and liquidate our assets. In that event~~ **even if successfully tested and developed**, **may not be adopted by physicians over** ~~the~~ **other** ~~amount of cash available for~~ **products and may not offer economically feasible alternatives to other therapies. Government Regulation The manufacture and** distribution **of levosimendan** ~~to our stockholders~~ will ~~depend heavily on the timing of such decision and, ultimately, such liquidation since the amount of cash available for distribution continues to decrease as we fund our operations and evaluate our strategic alternatives. In addition, if our Board were to approve and recommend, and our stockholders were to approve, a dissolution of our Company, we would be required~~ **require the approval of U. S. government authorities** ~~under Delaware corporate law to pay our outstanding obligations,~~ as well as ~~to make reasonable provision for contingent and unknown obligations, prior to making any distributions in liquidation to our stockholders. As a result of this requirement, a portion of our assets may need to be reserved pending the~~ **those** ~~resolution~~ of ~~such obligations~~ **foreign countries. In the United States, the FDA regulates medical products. The Federal Food, Drug and Cosmetic Act and the Public Health Service Act govern the testing, manufacture, safety, effectiveness, labeling, storage, record keeping, approval, advertising and promotion of our medical products**. In addition **to FDA regulations**, we ~~may~~ **are also subject to other federal and state regulations, such as the Occupational Safety and Health Act and the Environmental Protection Act. Product development and approval within this regulatory framework requires a number of years and involves the expenditure of substantial funds. Preclinical tests include evaluation of product chemistry and studies to assess the safety and effectiveness of the product and its formulation. The results of the preclinical tests are submitted to the FDA as part of the application. The goal of clinical testing is the demonstration in adequate and well- controlled studies of substantial evidence of the safety and effectiveness of the product in the setting of its intended use. The results of preclinical and clinical testing are submitted to the FDA from time to time throughout the trial process. In addition, before approval for the commercial sale of a product can** be **obtained** ~~subject to litigation or other claims related to a dissolution and liquidation of our Company. If a dissolution and liquidation were pursued~~, ~~our Board, in consultation with its advisors, would need to evaluate these matters and make a determination about a reasonable amount to reserve. Accordingly, holders of our common stock could lose all or a significant portion of their investment in the event of a dissolution, liquidation or winding up of our Company. Our failure to maintain compliance with Nasdaq' s continued listing requirements could result~~ **results** ~~in the delisting~~ of ~~our common stock. Our common stock is currently listed on~~ the **preclinical and clinical studies** ~~Nasdaq Capital Market. In order to maintain this listing, we~~ must **be submitted to** ~~satisfy minimum financial and other~~ -- **the** ~~requirements~~ **FDA**. **The testing** ~~On March 29, 2023, we received a notification letter from the Nasdaq Stock Market LLC (" Nasdaq ") indicating that we were not in compliance with Nasdaq Listing Rule 5550 (a) (2) (the " Bid Price Rule ") because the minimum bid price of our common stock~~

~~on the Nasdaq Capital Market closed below $ 1. 00 per share for 30 consecutive business days. In accordance with Nasdaq Listing Rule 5810 (c) (3) (A), the Company had a compliance period of 180 calendar days, or until September 25, 2023, to regain compliance with the Bid Price Rule. This timeline was extended by Nasdaq until March 25, 2024,~~ and **approval process** ~~following the Reverse Stock Split, the Company regained compliance. On January 18, 2024, Nasdaq provided the Company with a written confirmation of compliance with the Bid Price Rule. On January 11, 2024, we received a notification letter from Nasdaq indicating that we were not in compliance with Nasdaq Listing Rule 5550 (a) (4) (the " Public Float Rule "), which~~ requires **substantial time and** ~~the Company to have a minimum of 500, 000 publicly held shares. On February 22, 2024, Nasdaq provided the Company with a written confirmation of compliance with the Public Float Rule. While we intend to engage in efforts~~ **effort** ~~to maintain compliance,~~ and ~~thus maintain our listing,~~ there can be no assurance that ~~we~~ **any approval** will be **granted** ~~successful or continue to meet all applicable Nasdaq Capital Market requirements in the future. If our common stock were to be removed from listing with the Nasdaq Capital Market, it may be subject to the so- called " penny stock " rules. The SEC has adopted regulations that define a " penny stock " to be any equity security that has a market price per share of less than $ 5. 00, subject to certain exceptions, such as any securities listed~~ on a **timely basis** ~~national securities exchange~~, **if** ~~which is the exception on which we currently rely. For any transaction involving a " penny stock, " unless exempt, the rules impose additional sales practice requirements on broker- dealers, subject to certain exceptions. If our common stock were delisted and determined to be a " penny stock, " a broker- dealer may find it more difficult to trade our common stock and an investor may find it more difficult to acquire or dispose of our common stock on the secondary market. If our common stock is delisted and there is no longer an active trading market for our shares, it may, among other things: • cause stockholders difficulty in selling our shares without depressing the market price for the shares or selling our shares~~ at all ~~; • substantially impair~~ **. The approval process is affected by a number of factors, including the severity of the condition being treated, the availability of alternative treatments and the risks and benefits demonstrated in clinical trials. Additional preclinical studies** ~~our~~ **or** ~~ability~~ **clinical trials may be requested during the FDA review process and may delay product approval. After FDA approval for its initial indications, further clinical trials may be necessary** to ~~raise~~ **gain approval for the use of a product for** additional ~~funds; • result in a loss~~ **indications. The FDA may also require post- marketing testing to monitor for adverse effects, which can involve significant expense. The effects** of ~~institutional~~ **government regulations on our business are discussed under the heading " Risk Factors- Risks Relating to Our Industry " included elsewhere in this Annual Report on Form 10- K. Employees and Human Capital We have assembled a high- quality team of clinical development managers and executives with significant experience in the biotechnology and pharmaceutical industries. As of December 31, 2024, we had four full- time employees and two part- time employees. As of the date of this Annual Report on Form 10- K, we had five full- time employees and two part- time employees. In addition to our employees, we also rely on the service and support of outside consultants and advisors. None of our employees is represented by a union, and we believe relationships with our employees are good. Available Information Our website address is www. tenaxthera. com, and our** investor ~~interest~~ **relations website is located at http: / / investors. tenaxthera. com. Information on our website is not incorporated by reference herein. Copies of our annual reports on Form 10- K, quarterly reports on Form 10- Q, current reports on Form 8- K** and ~~fewer financing opportunities~~ **our proxy statements** for ~~us; and / or~~ **our meetings** ~~• result in potential breaches~~ of **stockholders, and** ~~representations or covenants of agreements pursuant to which we made representations or covenants relating to our compliance with applicable listing requirements. Claims related to~~ any **amendments** ~~such breaches, with or without merit, could result in costly litigation, significant liabilities and diversion of our management' s time and attention and could have a material adverse effect on our financial condition, business and results of operations. A delisting would also reduce the value of our equity compensation plans, which could negatively impact our ability~~ to ~~retain employees. 19We expect a number of factors to cause our operating results to fluctuate on a quarterly and annual basis, which may make it difficult to predict our future performance. Our financial condition and operating results have varied significantly in the past and will continue to fluctuate from quarter- to- quarter and year- to- year in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these~~ **those reports** ~~fluctuations include the following factors, among others: • our ability to raise additional money to fund our operations for at least the next 12 months as a going concern; • our ongoing evaluation of strategic alternatives; • our ability to develop our current product candidates, and any product candidate which we may develop or in- license in the future ; • delays in the commencement, recruitment and initiation of sites, enrollment of patients, and completion of clinical testing~~, as well as ~~the analysis~~ **Section 13** and **16** ~~reporting~~ **reports filed by our insiders, are available free** of **charge on our website as soon as reasonably practicable after we file the reports with, or furnish the reports to, the SEC. Our SEC filings are also publicly available on the SEC' s website located at www. sec. gov, which contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. ITEM 1A — RISK FACTORS Our business, financial condition and operating** results **may be affected by a number of factors, including but not limited to those described below. Any one or more of such factors could directly or indirectly cause our actual results of operations and financial condition to vary materially** from **our past** ~~such clinical testing; • the success of clinical trials of our~~ **or** ~~product candidates; •~~ **anticipated future results of operations and financial condition. Any of** ~~the~~ **these factors, in whole** ~~need to obtain regulatory approval of our~~ **or** ~~product candidates; • potential risks~~ **in part, could materially and adversely affect our business, financial condition, results of operations and stock price. The following information should be read in conjunction with Part II, Item 7, " Management' s Discussion and Analysis of Financial Condition and Results of Operations " and the accompanying financial statements and** related **notes** ~~to any collaborations we may enter into for our product candidates; • any delays~~ in **Part II, Item 8, " Financial Statements** ~~regulatory review and approval of product candidates in development; • our ability to establish an~~ **and Supplementary Data "** ~~effective sales and marketing infrastructure; • competition from existing products or new products that may emerge; • the ability to receive regulatory approval or commercialize our products; • potential side~~

effects of **this Annual Report** our product candidates that could delay or prevent commercialization; • potential product liability claims and adverse events; • potential liabilities associated with hazardous materials; • our ability to maintain adequate insurance policies; • our dependency on third- party manufacturers and CROs;..... have incurred losses since inception. For **Form 10- K** the years ended December 31, 2023..... royalty and other revenues to achieve profitability . Risks Related to Our Business Strategy and **Our** Operations We are limited in the number of products we can simultaneously pursue and therefore our survival depends on our success with a small number of product opportunities. **At** We have limited financial resources, so at present we are primarily focusing our resources on developing levosimendan for the treatment of PH- HFpEF, while imatinib for the treatment of PAH remains part of our portfolio. We intend to commit most of our resources to advancing levosimendan to the point it receives regulatory approval for the treatment of pulmonary hypertension in patients with associated HFpEF. Depending on the **whether we raise additional** funds **in** raised and timing of the funding **future** , as well as on decisions made by **the** USPTO, clinical trial results and other information revealed by competitors, and other factors, we will prioritize our funding and other resources. **If** Pending the outcome of our strategic process, if as a consequence of the results of our planned Phase 3 trials **for levosimendan** , or the results of prior clinical trials performed using levosimendan or imatinib, we are unable to receive regulatory approval of one or both of our existing product candidates, then we may not have resources to pursue development of any other products and our business could terminate. 20A pandemic, epidemic, or outbreak of an infectious disease, such as COVID- 19, or another coronavirus or similar disrupting illness, may materially and adversely affect our business and our financial results. The spread of COVID- 19, including variant strains, has affected segments of the global economy and healthcare systems and has previously had an adverse impact on our business operations. COVID- 19 or a similar global pandemic could in the future, directly or indirectly, materially and adversely affect our operations, including the potential interruption of our clinical trial activities and our supply chain. There could be continuing or new effects of COVID- 19 or similar disrupting illnesses to the processes, timelines, resourcing, and other aspects of operations at FDA or other health authorities, which could result in delays of reviews and approvals, including with respect to our product candidates. Additionally, the continued spread of COVID- 19 or similar disrupting illnesses could adversely affect our future clinical trial operations in the United States, Canada, and elsewhere, including our ability to recruit, retain, and rely on the active participation of patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to respiratory illnesses if an outbreak occurs in their geography. The spread of COVID- 19, or another infectious disease, could also negatively affect the operations at our third- party manufacturers, which could result in delays or disruptions in the supply of our product candidates. We cannot presently predict the scope and severity of any potential business shutdowns or disruptions. If we or any of the third parties with whom we engage, however, were to experience shutdowns or other business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially and negatively affected, which could have a material adverse impact on our business and our results of operation and financial condition. If we fail to attract and retain senior management and key scientific personnel, we may be unable to successfully develop and commercialize our product candidates. We have historically operated with a limited number of employees. As of December 31, 2023, we had five full- time employees and one part- time employee. Therefore, institutional knowledge is concentrated within a small number of employees. Our success depends in part on our continued ability to attract, retain and motivate highly qualified management, clinical and scientific personnel to continue the development, regulatory approval and commercialization of our product candidates. We will need to hire or contract with additional qualified personnel with expertise in preclinical testing, clinical research and testing, government regulation, formulation and manufacturing, and sales and marketing. Additionally, our future success is highly dependent upon the contributions of our senior management team. The loss of services of any of these individuals could delay or prevent the successful development of our product pipeline, completion of our planned clinical trials or the commercialization of our product candidates. We face competition from other companies and organizations for qualified personnel. Other companies and organizations with which we compete for personnel may have greater financial and other resources and different risk profiles than we do, and a history of successful development and commercialization of their product candidates. Replacing employees and attracting sufficiently skilled new employees may be difficult and costly, and we may not have other personnel with the capacity to assume all the responsibilities of an existing employee upon his or her departure or to take on the duties necessary to continue growing our company and pursuing our business strategy. If we cannot attract and retain skilled personnel, as needed, we may not achieve our development and other goals. In addition, the success of our business will depend on our ability to develop and maintain relationships with respected service providers and industry- leading consultants and advisors. If we cannot develop and maintain such relationships, as needed, the rate and success at which we can develop and commercialize product candidates may be limited. In addition, our insourcing and outsourcing strategies, which have included engaging consultants to manage core administrative and operational functions, may subject us to scrutiny under labor laws and regulations, which may divert management time and attention and have an adverse effect on our business and financial condition. Risks Related to Drug Development and Commercialization We currently have no approved drug products for sale , and we cannot guarantee that we will ever have marketable drug **our business depends on the successful development and commercialization of our** products **product candidates** . We currently have no approved drug products for sale . The research, testing, manufacturing, labeling, approval, selling, marketing, and distribution of drug products are extensively regulated by the FDA and other regulatory authorities in the United States and other countries, with regulations differing from country to country. We are not permitted to market our product candidates in the United States until we receive approval of a New Drug Application (" NDA ") from the FDA for each product candidate. We have not submitted an NDA or received marketing approval for any of our product candidates , and obtaining approval of an NDA is a lengthy, expensive and uncertain process . In addition, markets outside of the United States also have requirements for approval of drug candidates which we must comply with prior to marketing. Accordingly, we cannot guarantee that we will ever have marketable drug products. Prior to obtaining **The process of developing new drugs and / or therapeutic products is**

inherently complex, unpredictable, time- consuming, expensive and uncertain. We must make long- term investments and commit significant resources before knowing whether our development programs will result in products that will receive regulatory approval ~~to commercialize a~~ **and achieve market acceptance.** ~~product~~ **Product** ~~candidate~~ **candidates that appear to be promising at some** ~~in the United States or abroad, we or our~~ **or** ~~collaborators must demonstrate with substantial evidence from well- controlled~~ **all stages of development may not receive approval or reach the market for a number of reasons that may not be predictable based on results and data of the clinical program. Product candidates may be found ineffective or may cause harmful side effects during** clinical trials, ~~and~~ **may take longer** to **progress through clinical trials** ~~the satisfaction of the FDA, that~~ **than** ~~such~~ **had been anticipated, may not be able to achieve the pre- defined clinical endpoints due to statistical anomalies even though clinical benefit may have been achieved, may fail to receive necessary regulatory approvals, may prove impracticable to manufacture in commercial quantities at reasonable cost and with acceptable quality, or may fail to achieve market acceptance. Even if we believe the preclinical or clinical data for our** product candidates are **favorable** ~~safe and effective for their intended uses. Results from preclinical studies and clinical trials can be interpreted in different ways. Even if we believe the preclinical or clinical data for our product candidates are promising~~, such data may not be sufficient to support approval by the FDA and other regulatory authorities. Additionally, the FDA may require us to conduct additional preclinical studies or clinical trials for our product candidates either prior to or post- approval, or it may object to elements of our clinical development program. We are required to conduct additional clinical trials, including the LEVEL **and LEVEL- 2** ~~trial~~ **trials** for oral levosimendan, which are expensive and time consuming, and the outcome of the clinical trials is uncertain. We expect to commit a substantial portion of our financial and business resources in the short- term to completing the LEVEL **and LEVEL- 2** ~~trial~~ **trials** ~~, a Phase 3 trial of levosimendan,~~ and advancing this product through ~~a subsequent Phase 3 trial and on~~ to regulatory approval for use in PH- HFpEF, and potentially other indications. We may in the future commit resources to clinical trials for our other product candidates, including imatinib. All of these clinical trials and **product** testing **efforts** will be expensive and time consuming and the timing of the regulatory review process is uncertain. The applicable regulatory agencies may suspend clinical trials at any time if they believe that the subjects participating in such trials are being exposed to unacceptable health risks. We cannot assure you that we will be able to complete our clinical trials successfully or obtain FDA or other governmental or regulatory approval of our product candidates, or that such approval, if obtained, will not include limitations on the indicated uses for which our product candidates may be marketed. Our business, financial condition and results of operations are critically dependent on obtaining capital to advance our testing program and receiving FDA and other governmental and regulatory approvals of our products. A significant delay in or failure of our planned clinical trials or a failure to achieve these approvals would have a material adverse effect on us and could result in major business and financial setbacks. 21The market may not accept our products..... of developing our product candidates. 22Delays -- **Delays** in the enrollment and completion of clinical testing could result in increased costs to us and delay or limit our ability to obtain regulatory approval for our product candidates. Delays in the commencement, enrollment and completion of clinical testing could significantly affect our ability to gain FDA approval of current product candidates, **and** to gain this approval in the timeline planned, and could significantly increase our future product development costs. The completion of clinical trials requires us to identify and maintain a sufficient number of trial sites, many of which might already be engaged in other clinical trial programs for the same indication as our product candidates, might be required to withdraw from our clinical trial as a result of changing standards of care, might suffer from staff shortages at the institutional or clinic level that impact their ability to enroll and treat patients under our protocols, or might become ineligible to participate in clinical studies. The enrollment and completion of clinical trials can be delayed for a variety of other reasons, including delays related to: • reaching agreements on acceptable terms with prospective trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among trial sites; • obtaining institutional review board (" IRB ") approval to conduct a clinical trial at numerous prospective sites; • recruiting and enrolling patients to participate in clinical trials for a variety of reasons, including meeting the enrollment criteria for our study and competition from other clinical trial programs for the same indication as our product candidates; • maintaining and supplying clinical trial material on a timely basis; • collecting, analyzing and reporting final data from the clinical trials; ~~and • an epidemic which might cause site closures because of infected staff or cause patients to avoid or be unable to travel to healthcare facilities and physicians' offices unless due to a health emergency;~~ In addition, a clinical trial may be suspended or terminated by us, the FDA or other regulatory authorities due to a number of factors, including: • failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols; • inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities resulting in the imposition of a clinical hold; • unforeseen safety issues or any determination that a trial presents unacceptable health risks; and • lack of adequate funding to continue the clinical trial, including unforeseen costs due to enrollment delays, requirements to conduct additional trials and studies, and increased expenses associated with the services of our CROs and other third parties. Changes in regulatory requirements and guidance may occur and we may need to amend clinical trial protocols to reflect these changes with appropriate regulatory authorities. Amendments may require us to resubmit our clinical trial protocols to IRBs for re- examination, which may impact the costs, **design,** timing or successful completion of a clinical trial. If we experience delays in the completion of, or if we terminate, our clinical trials, the commercial prospects for our product candidates will be harmed, and our ability to generate product revenues will be delayed. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of a product candidate. Even if we are ultimately able to commercialize our product candidates, other therapies for the same or similar indications may have been introduced to the market and established a competitive advantage. ~~23Risks Relating~~ **If any** of our product candidates receive marketing approval,they may nonetheless fail to gain sufficient market acceptance by physicians,patients,third- party payors and others in the medical community.If our product candidates do not achieve an adequate level of acceptance,we may not generate significant revenue and we may not become profitable.The degree of market acceptance of our product candidates,if approved

for commercial sale,will depend on a number of factors,including:• the efficacy,safety and potential advantages of our product candidates;• our ability to offer our products for sale at competitive prices;• the convenience and ease of administration compared to alternative treatments,if any;• product labeling or product insert requirements of the FDA or foreign regulatory authorities,including any limitations or warnings contained in a product' s approved labeling,including any black box warning;• the willingness of the target patient population to try new treatments and of physicians to prescribe these treatments;• our ability to hire and retain a sales force in the United States **or elsewhere** ;• the strength of manufacturing,marketing and distribution support;• the availability of third- party coverage and adequate reimbursement for of levosimendan,imatinib and any other product candidates,once approved;• the prevalence and severity of any side effects;and • any restrictions on the use of our products together with other medications. ~~Nonfinal results from~~ **From** ~~our clinical trials announced or published from~~ time to time ~~on an~~ **,we may publish or reference** interim **,** ~~to~~ **top** ~~may publish interim,top~~ - line,or preliminary results from our clinical trials **,including of blinded or unblinded data** .Interim or top- line results from clinical trials that we may complete are subject to the risk that one or more of the clinical outcome measurements may materially change as patient enrollment and treatment extends and more patient experience is observed.Preliminary or top- line results also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published.As a result,interim and preliminary data should be viewed with caution until the final and complete data are available.Differences between preliminary or interim data and final data could significantly harm our business prospects and may cause the trading price of our common stock to fluctuate significantly. **We may** ~~Any collaboration we~~ enter **into collaborations** with third parties to develop and commercialize ~~any~~ future product candidates **.** ~~may place the~~ Our ~~Industry incurred losses since inception.For~~ the years ended December 31, ~~2024~~ **2023** and ~~2023~~ **2022** ,we incurred net operating losses of $ ~~19~~ **8** . ~~5~~ **2** million and $ ~~8~~ **11** . ~~2~~ **0** million,respectively.We have funded our operations since ~~2013~~ **September 1990** principally through the issuance of debt and equity securities **and loans from stockholders** .We will continue to incur losses until we generate sufficient revenue to offset our expenses,and we anticipate that we will continue to incur net losses for at least the next several years.We expect to incur additional expenses related to our development and potential commercialization of levosimendan for pulmonary hypertension and other potential indications,imatinib for PAH,as well as identifying and developing other potential product candidates,and as a result,we will need to generate significant net product sales,royalty and other revenues to achieve **profitability** Intense competition might render our cardiovascular and pulmonary product candidates noncompetitive or obsolete. Competition in the pharmaceutical industry in general and in our therapeutic areas is intense and characterized by extensive research efforts and rapid technological progress. Technological developments by competitors, regulatory approval for marketing competitive products, including potential generic or over- the- counter products, or superior marketing resources possessed by competitors could adversely affect the commercial potential of our cardiovascular and pulmonary disease product candidates and could have a material adverse effect on our future revenue and results of operations. We believe that there are numerous pharmaceutical and biotechnology companies, as well as academic research groups throughout the world, engaged in research and development efforts with respect to pharmaceutical products targeted at cardiovascular and pulmonary diseases and conditions addressed by our product pipeline. Developments by others might render our product pipeline obsolete or noncompetitive. Competitors might be able to complete the development and regulatory approval process sooner and, therefore, market their cardiovascular and pulmonary disease products earlier than we can. Many of our current competitors have significant financial, marketing and personnel resources and development capabilities. For example, many large, well- capitalized companies already offer cardiovascular and pulmonary products and services in the United States and Europe that target the indications for which our product candidates are being developed, or related indications. Currently, as an example, **at least** twelve vasodilators are marketed in the U. S. for use in patients with PAH, and sales teams from Janssen, Pfizer, Bayer, United Therapeutics, and other large companies with marketing and sales capabilities represent these products in the specialized care centers where the disease is treated. While there are no products currently marketed to treat PH- HFpEF, **specifically,** some products are under development to treat this prevalent disease **, and some products marketed for other conditions or for HFpEF alone, are used in these patients and could constitute competition at the patient, payor, or overall market level in future** . Our activities are and will continue to be subject to extensive government regulation, which is expensive and time- consuming, and we will not be able to sell our products without regulatory approval. Our development, marketing, and distribution of levosimendan and, potentially in the future, imatinib, are, and will continue to be, subject to extensive regulation, monitoring and approval by the FDA and other regulatory agencies. There are significant risks at each stage of regulation. Product approval stage During the product approval stage, we study and attempt to prove the safety and efficacy of our product candidate for its indicated uses. There are numerous problems that could arise during this stage, including: • the data obtained from laboratory testing and clinical trials are susceptible to varying interpretations, which could delay, limit, or prevent FDA and other regulatory approvals; • adverse events could cause the FDA and other regulatory authorities to halt trials; • at any time, the FDA and other regulatory agencies could change policies and regulations that could result in delay and perhaps rejection of our products; • **at any time, the FDA and other regulatory agencies can provide evolving input into the design of our clinical program, and input from different regulators may be challenging to reconcile within an ongoing development program; •** if a prolonged government shutdown occurs **, reductions in staffing at the FDA, or similar impacts on medical review functions within global regulators** , it could significantly impact the ability of the FDA to timely review and process our regulatory submissions; and • even after extensive testing and clinical trials, and receiving agreements and reassurances from the FDA, EMA, and others, as to their future position on a dataset or result to be generated from a trial the design of which they have weighed in on, there is no assurance that regulatory approval will ever be obtained for any of our products. Post-commercialization stage Discovery of previously unknown problems with our products, or unanticipated problems with our manufacturing arrangements, even after FDA and other regulatory approvals of our products for commercial sale, may result in the imposition of significant restrictions, including withdrawal of the product from the market. Additional laws and regulations

may also be enacted that could prevent or delay regulatory approval of our products, including laws or regulations relating to the price or cost- effectiveness of medical products. Any delay or failure to achieve regulatory approval of commercial sales of our products is likely to have a material adverse effect on our financial condition, results of operations and cash flows. ~~24The~~ -- **The** FDA and other regulatory agencies continue to review products even after they receive agency approval. If and when the FDA or another regulatory agency outside the United States approves one of our products, its manufacture and marketing will be subject to ongoing regulation, which could include compliance with current good manufacturing practices, adverse event reporting requirements and general prohibitions against promoting products for unapproved or " off- label " uses. We are also subject to inspection and market surveillance by the FDA for compliance with these and other requirements. Any enforcement action resulting from failure, even by inadvertence, to comply with these requirements could affect the manufacture and marketing of levosimendan, imatinib or our other products. In addition, the FDA or other regulatory agencies could withdraw a previously approved product from the market upon receipt of newly discovered information. The FDA or another regulatory agency could also require us to conduct additional, and potentially expensive, studies in areas outside our approved indicated uses. We may not receive all of the anticipated market exclusivity benefits of imatinib' s orphan drug designation, if we prioritize imatinib development in the future. TNX- 201, our proprietary formulation of imatinib mesylate, a kinase inhibitor, received Orphan Drug Designation from the FDA in the second quarter of 2020. Orphan Drug Designation may provide market exclusivity in the United States for seven years if (i) imatinib receives market approval before a competitor using a similar mechanism for the same indication, (ii) we are able to produce sufficient supply to meet demand in the marketplace, and (iii) another product with the same active ingredient is not subsequently deemed clinically superior. Obtaining an Orphan Drug Designation from the FDA may not effectively protect our product candidates from competition because different drugs can be approved for the same condition, and orphan drug exclusivity does not prevent the FDA from approving the same or a different drug in another indication. Even after an orphan drug is approved, the FDA can subsequently approve a later application for the same drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer in a substantial portion of the target populations, more effective, or makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to manufacture sufficient quantities of the product to meet the needs of patients with the rare disease or condition. Orphan Drug Designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process. ~~Even after products are commercialized, we would expect to spend considerable time and money complying with federal and state laws and regulations governing their sale, and, if we are unable to fully comply with such laws and regulations, we could face substantial penalties.~~ Health care providers, physicians and others would play a primary role in the recommendation and prescription of our clinical products. Our arrangements with third- party payers and customers may expose us to broadly applicable fraud and abuse and other health care laws and regulations that may constrain the business or financial arrangements and relationships through which we will market, sell and distribute our products. Applicable federal and state health care laws and regulations are expected to include, but not be limited to, the following: • the federal anti- kickback statute is a criminal statute that makes it a felony for individuals or entities knowingly and willfully to offer or pay, or to solicit or receive, direct or indirect remuneration, in order to induce the purchase, order, lease, or recommendation of items or services, or the referral of patients for services, that are reimbursed under a federal health care program, including Medicare and Medicaid; • the federal False Claims Act imposes liability on any person who knowingly submits, or causes another person or entity to submit, a false claim for payment of government funds, with penalties that include three times the government' s damages plus civil penalties for each false claim; in addition, the False Claims Act permits a person with knowledge of fraud, referred to as a qui tam plaintiff, to file a lawsuit on behalf of the government against the person or business that committed the fraud, and, if the action is successful, the qui tam plaintiff is rewarded with a percentage of the recovery; • the Health Insurance Portability and Accountability Act imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information; • the Social Security Act contains numerous provisions allowing the imposition of a civil monetary penalty, a monetary assessment, exclusion from the Medicare and Medicaid programs, or some combination of these penalties; and • many states have analogous state laws and regulations, such as state anti- kickback and false claims laws, which, in some cases, impose more strict requirements than the federal laws and may require pharmaceutical companies to comply with certain price reporting and other compliance requirements. ~~25Our~~ -- **Our** failure to comply with any of these federal and state health care laws and regulations, or health care laws in foreign jurisdictions, could have a material adverse effect on our business, financial condition, result of operations and cash flows ~~. We are subject to uncertainty relating to healthcare reform measures and reimbursement policies that, if not favorable to our products, could hinder or prevent our products' commercial success, if any of our product candidates are approved~~ . Our ability to successfully commercialize our products will depend in part on the extent to which governmental authorities, such as Medicare, private health insurers and other organizations establish what we believe to be appropriate coverage and reimbursement for our approved products. The unavailability or inadequacy of third- party payer coverage and reimbursement could negatively affect the market acceptance of our product candidates and the future revenues we may expect to receive from any approved products. The commercial success of our product candidates, if approved, will depend in part on the extent to which the costs of such products will be covered by third- party payers, such as government health programs, commercial insurance and other organizations. Third- party payers are increasingly challenging the prices and examining the medical necessity and cost- effectiveness of medical products and services, in addition to their safety and efficacy. If these third- party payers do not consider our products to be cost- effective compared to other therapies, we may not obtain coverage for our products after approval as a benefit under the third- party payers' plans or, even if we do, the level of coverage or payment may not be sufficient to allow us to sell our

products on a profitable basis. Significant uncertainty exists as to the reimbursement status for newly approved drug products, including coding, coverage and payment. There is no uniform policy requirement for coverage and reimbursement for drug products among third- party payers in the United States; therefore, coverage and reimbursement for drug products can differ significantly by payer. The coverage determination process is often a time- consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payer separately, with no assurance that coverage and adequate payment will be applied consistently or obtained. The process for determining whether a payer will cover and how much it will reimburse a product may be separate from the process of seeking approval of the product or for setting the price of the product. Even if reimbursement is provided, market acceptance of our products may be adversely affected if the amount of payment for our products proves to be unprofitable for healthcare providers or less profitable than alternative treatments or if administrative burdens make our products less desirable to use. Third- party payer reimbursement to providers of our products, if approved, may be subject to a bundled payment that also includes the procedure of administering our products or third- party payers may require providers to perform additional patient testing to justify the use of our products. To the extent there is no separate payment for our products, there may be further uncertainty as to the adequacy of reimbursement amounts. The containment of healthcare costs is a priority of federal, state and foreign governments and the prices of drug products have been a focus in this effort. The continuing efforts of government, private insurance companies and other organizations to contain or reduce costs of healthcare **, including through such recent legislation as the Inflation Reduction Act in the U. S., the effects of which are evolving over time,** may adversely affect our ability to set as high a price for our products as we might otherwise and the rate and scope of adoption of our products by healthcare providers. We expect that federal, state and local governments in the United States, as well as governments in other countries, will continue to consider legislation directed at lowering the total cost of healthcare. In addition, in certain foreign markets, the pricing of drug products is subject to government control and reimbursement may in some cases be unavailable or insufficient. It is uncertain whether and how future legislation, whether domestic or abroad, could affect prospects for our product candidates or what actions governmental or private payers for healthcare treatment and services may take in response to any such healthcare reform proposals or legislation. Adoption of price controls and cost- containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, may prevent or limit our ability to generate revenue, attain profitability or commercialize our product candidates. ~~26These~~ -- **These** potential courses of action are unpredictable and the potential impact of new legislation on our operations and financial position is uncertain, but may result in more rigorous coverage criteria, lower reimbursement and additional downward pressure on the price we may receive for an approved product. Any reduction in reimbursement from Medicare or other government- funded programs may result in a similar reduction in payments from private payers. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our products, if approved ~~. Governments outside the United States tend to impose strict price controls and reimbursement approval policies, which may adversely affect our prospects for generating revenue outside the United States~~ . We have worldwide distribution rights for levosimendan and our formulation of imatinib, and in some countries, particularly European Union countries and Canada, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. In addition, there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. To obtain or maintain reimbursement or pricing approval in some countries with respect to any product candidate that achieves regulatory approval, we may be required to conduct a clinical trial that compares the cost- effectiveness of our product candidate to other available therapies. If reimbursement of our products upon approval, if at all, is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our prospects for generating revenue, if any, could be adversely affected, which would have a material adverse effect on our business and results of operations. Further, if we achieve regulatory approval of any product, we must successfully negotiate product pricing for such product in individual countries. As a result, if our products are approved, the pricing of our products in different countries may vary widely, thus creating the potential for third- party trade in our products in an attempt to exploit price differences between countries. This third- party trade of our products could undermine our sales in markets with higher prices. Product liability lawsuits against us could cause us to incur substantial liabilities, limit sales of our existing products and limit commercialization of any products that we may develop. Our business exposes us to the risk of product liability claims that are inherent in the manufacturing, distribution, and sale of ~~biotechnology~~ **pharmaceutical** products. We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and an even greater risk when we commercially sell any products. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in: • decreased demand for our products and any product candidates that we may develop; • injury to our reputation; • withdrawal of clinical trial participants; • costs to defend the related litigation; • substantial monetary awards to trial participants or patients; • loss of revenue; and • the inability to commercialize any products that we may develop. We currently maintain limited product liability insurance coverage for our clinical trials in the total amount of $ 5 million. However, our profitability will be adversely affected by a successful product liability claim in excess of our insurance coverage. There can be no assurance that product liability insurance will be available in the future or be available on reasonable terms. ~~27Our business and operations would suffer in the event of computer system failures, cyber- attacks or deficiencies in our cybersecurity.~~ Despite the implementation of security measures, our internal computer systems, and those of third parties on which we rely, are vulnerable to damage from computer viruses, malware, natural disasters, terrorism, war, telecommunication and electrical failures, cyber- attacks or cyber- intrusions over the Internet, attachments to emails, persons inside our organization, or persons with access to systems inside our organization. The risk of a security breach or disruption, particularly

through cyber- attacks or cyber intrusion, including by computer hackers, foreign governments, and cyber- terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our product development programs. For example, the loss of clinical trial data from completed or ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach was to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur material legal claims and liability, and damage to our reputation, and the further development of our product candidates could be delayed. Our disclosure controls and procedures address cybersecurity and include elements intended to ensure that there is an analysis of potential disclosure obligations arising from security breaches. We also maintain compliance programs to address the potential applicability of restrictions against trading while in possession of material, nonpublic information generally and in connection with a cybersecurity breach. However, a breakdown in existing controls and procedures around our cybersecurity environment may prevent us from detecting, reporting or responding to cyber- incidents in a timely manner and could have a material adverse effect on our financial position and value of our stock. For more information, see Item 1C. Cybersecurity. ~~Risks Related to Our Dependence on Third Parties~~ We have historically **relied on** and we will continue to **substantially** rely ~~significantly~~ on third parties to conduct our nonclinical testing and clinical studies and other aspects of our development programs. If those third parties do not satisfactorily perform their contractual obligations or meet anticipated deadlines, the development of our product candidates could be adversely affected. We do not currently employ personnel or possess the facilities necessary to conduct many of the activities associated with our development programs. We have historically and we will continue to engage consultants, advisors, CROs and others to assist in the design and conduct of nonclinical and clinical studies of our product candidates, with interpretation of the results of those studies and with regulatory activities and expect to continue to outsource all or a significant amount of such activities. As a result, many important aspects of our development programs are and will continue to be outside our direct control and our third- party service providers may not perform their activities as required or expected, including the maintenance of Good Laboratory Practices (“ GLP ”) or Good Clinical Practices (“ GCP ”) compliance, which are ultimately our responsibility to ensure. Further, such third parties may not be as committed to the success of our programs as our own employees and, therefore, may not devote the same time, thoughtfulness, or creativity to completing projects or problem-solving as our own employees would. To the extent we are unable to successfully manage the performance of third- party service providers, our business may be adversely affected. The CROs we engage or may engage to execute our clinical studies play a significant role in the conduct of the studies, including the collection and analysis of study data, and we likely will depend on CROs and clinical investigators to conduct future clinical studies and to assist in analyzing data from completed studies and developing regulatory strategies for our product candidates. Individuals working at the CROs with which we contract, as well as investigators at the sites at which our studies are conducted, are not our employees, and we have limited control over the amount or timing of resources that they devote to their programs. If our CROs, study investigators, and / or third- party sponsors fail to devote sufficient time and resources to studies of our product candidates, if we and / or our CROs do not comply with all GLP and GCP regulatory and contractual requirements, or if their performance is substandard, it could adversely affect the development of our product candidates. In addition, the third parties we engage may have relationships with other commercial entities, some of which may compete with us. Through intentional or unintentional means, our competitors may benefit from lessons learned on the project that could ultimately harm our competitive position. Moreover, if a CRO fails to properly, or at all, perform our activities during a clinical study, we may not be able to enter into arrangements with alternative CROs on acceptable terms or in a timely manner, or at all. Switching CROs may increase costs and divert management time and attention. In addition, there likely would be a transition period before a new CRO commences work. These challenges could result in delays in the commencement or completion of our clinical studies, which could materially impact our ability to meet our desired and / or announced development timelines and have a material adverse impact on our business and financial condition. ~~28We depend on third parties to formulate and manufacture our products.~~ We do not own or operate any manufacturing facilities for the clinical- or commercial- scale production of our products. Pursuant to the terms of our license for levosimendan, Orion is at present our sole manufacturing source for TNX- 103; should they opt not to provide us the product, our license agreement provides for 24 months’ notice to the Company of same, to allow an alternative manufacturer to be brought onboard. We might engage other third- party suppliers and CMOs for the supply and manufacture of TNX- 102, or other formulations we might develop. Accordingly, our business is susceptible to disruption, and our results of operations can be adversely affected, by any disruption in supply or other adverse developments in our relationship with Orion. If supply from Orion is delayed or terminated, or if its facilities suffer any damage or disruption, we may need to successfully qualify an alternative supplier in a timely manner in order to avoid disruption of our business. If we cannot obtain an alternate manufacturer in a timely manner, we would experience a significant interruption in supply of levosimendan, which could negatively affect our **clinical trial conduct and other product development efforts and timelines,** financial condition, results of operations and cash flows. To potentially manufacture imatinib in the future, we have contracted with various third- party suppliers and CMOs making us highly dependent on these CMOs. We do not at present have alternative CMOs planned or contracted to back up our primary vendors of clinical trial material or, if approved, commercial supply material. Identification of and discussions with other CMOs may be protracted and / or unsuccessful, or these new CMOs may be unsuccessful in producing the same results as the current primary CMOs producing the material. Therefore, if our primary CMOs become unable or unwilling to perform their required activities, we could experience protracted delays or interruptions in the supply of clinical trial material and, ultimately, product for commercial sale, which would materially and adversely affect our development programs, commercial activities, operating results and financial condition. In addition, the FDA or regulatory authorities outside of the United States may require us to have an alternate manufacturer of a drug product before approving any

product candidate for marketing and sale in the United States or abroad. Securing such alternate manufacturer, if possible, could result in considerable additional time and cost prior to approval. We **have historically operated with a limited number of employees. As of December 31, 2024, we had four full- time employees and two part- time employees, and in the first quarter of 2025 added one additional full- time employee. Therefore, institutional knowledge is concentrated within a small number of employees. Our success depends in part on our continued ability to attract, retain and motivate highly qualified management, clinical and scientific personnel to continue the development, regulatory approval and commercialization of our product candidates. We will need to hire or contract with additional qualified personnel with expertise in preclinical testing, clinical research and testing, government regulation, formulation and manufacturing, and sales and marketing. Additionally, our future success is highly dependent upon the contributions of our senior management team. The loss of services of any of these individuals could delay or prevent the successful development of our product pipeline, completion of our planned clinical trials or the commercialization of our product candidates. We face competition from other companies and organizations for qualified personnel. Other companies and organizations with which we compete for personnel may have greater financial and other resources and different risk profiles than we do, and a history of successful development and commercialization of their product candidates. Replacing employees and attracting sufficiently skilled new employees may be difficult and costly, and we may not have other personnel with the capacity to assume all the responsibilities of an existing employee upon his or her departure or to take on the duties necessary to continue growing our company and pursuing our business strategy. If we cannot attract and retain skilled personnel, as needed, we may not achieve our development and other goals. In addition, the success of our business will depend on our ability to develop and maintain relationships with respected service providers and industry- leading consultants and advisors. If we cannot develop and maintain such relationships, as needed, the rate and success at which we can develop and commercialize product candidates may be limited. In addition, our insourcing and outsourcing strategies, which have included engaging consultants to manage core administrative and operational functions, may subject us to scrutiny under labor laws and regulations, which may divert management time and attention and have an adverse effect on our business and financial condition. We will need to manage our anticipated growth and increased operational activity, including as a result of the continuing development of levosimendan and any other product candidates. Our personnel, systems, and facilities currently in place may not be adequate to support this future growth. Our need to effectively execute our growth strategy will require that we: • manage our research and development activities and our regulatory trials effectively; • attract and motivate sufficient numbers of talented employees or consultants; • manage our internal development efforts effectively while complying with our contractual obligations to licensors, licensees, contractors, collaborators and other third parties; • develop internal sales and marketing capabilities or establish collaborations with third parties with such capabilities; • commercialize our product candidates; and • improve our operational, financial and management controls, reporting systems and procedures. This planned future growth could place a strain on our administrative and operational infrastructure and may require our management to divert a disproportionate amount of its attention away from our day- to- day activities. We may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel, which may result in weaknesses in our infrastructure, and give rise to operational mistakes, loss of business opportunities, loss of employees and consultants and reduced productivity among remaining employees and consultants. We may not be able to make improvements to our management information and control systems in an efficient or timely manner and may discover deficiencies in existing systems and controls. If our management is unable to effectively manage our expected growth, our expenses may increase more than expected, our ability to generate or increase our revenues could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to compete effectively will depend, in part, on our ability to effectively manage any future growth. We** currently have ~~no~~ **very limited** marketing capabilities and no sales organization. **If** ~~Pending the outcome of our ongoing strategic process, if~~ we are unable to establish sales and marketing capabilities on our own or through third parties, we will be unable to successfully commercialize our products, if approved, or generate product revenue. **To** ~~Pending the outcome of our strategic process, to~~ commercialize our products, if approved, in the United States and other jurisdictions in which we may seek approvals, we must build our marketing, sales, managerial and other non- technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. We have not decided upon a commercialization strategy in these areas. We have no experience in the sale and marketing of approved medical products and marketing the licensing of such products before FDA or other regulatory approval. We do not know of any third party that is prepared to distribute our products should they be approved. If we decide to establish our own commercialization capability, we will need to recruit, train and retain a marketing staff and sales force with sufficient technical expertise. We do not know whether we can establish a commercialization program at a cost that is acceptable in relation to revenue or whether we can be successful in commercializing our product. Factors that may inhibit our efforts to commercialize our products directly and without strategic partners include: • our inability to recruit and retain adequate numbers of effective sales and marketing personnel; • the inability of sales personnel to obtain access to or persuade adequate numbers of physicians to prescribe our products; • the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and • unforeseen costs and expenses associated with creating and sustaining an independent sales and marketing organization.

 Further , we may pursue arrangements regarding the sales and marketing and distribution of one or more of our product candidates and our future revenues may depend, in part, on our ability to enter into and maintain arrangements with other companies having sales, marketing and distribution capabilities and the ability of such companies to successfully market and sell any such products. Any failure to enter into such arrangements and marketing alliances on favorable terms, if at all, could delay or impair our ability to commercialize our product candidates and could increase our costs of commercialization.

Any use of distribution arrangements and marketing alliances to commercialize our product candidates will subject us to a number of risks, including the following: • we may be required to relinquish important rights to our products or product candidates; • we may not be able to control the amount and timing of resources that our distributors or collaborators may devote to the commercialization of our product candidates; • our distributors or collaborators may experience financial difficulties; • our distributors or collaborators may not devote sufficient time to the marketing and sales of our products; and • business combinations or significant changes in a collaborator' s business strategy may adversely affect a collaborator' s willingness or ability to complete its obligations under any arrangement. If we are unable to implement our own sales and marketing capability or are unable to contract with one or more third parties for such services on acceptable terms or at all, we may not be able to successfully commercialize our products in certain markets. Any failure or delay in the development of our internal or external sales, marketing and distribution capabilities would adversely impact the commercialization of our products. If we are not successful in commercializing our products, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we would incur significant additional losses. Risks Related to Intellectual Property ~~Our success will depend in part on obtaining and maintaining effective patent and other intellectual property protection for our product candidates and proprietary technology.~~ Our commercial success will depend in part on obtaining and maintaining effective patent protection and other intellectual property protection of our product candidates and the methods used to manufacture them, as well as successfully defending these patents against third- party challenges. Our ability to stop third parties from making, using, selling, offering to sell or importing our products, if any, will be dependent upon the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities. We are pursuing a multi- faceted IP strategy for levosimendan that includes filing patent applications in the U. S. and Canada **, Europe, and multiple other countries** that, if granted, could protect various uses and formulations of levosimendan In January 2022, the USPTO granted us a patent protecting claims for different uses of various cyclodextrin- based subcutaneous formulations of levosimendan, including a claim for its use in the treatment of PH- HFpEF patients. In addition, we received in March 2023 another patent protecting the use of levosimendan in the treatment of PH- HFpEF. Two subsequent patents expanded these protections on the use of levosimendan in the treatment of PH- HFpEF **. Other patent applications are pending globally** . Our strategy to maximize market exclusivity for imatinib relies on two forms of exclusivity. First, we have been granted Orphan Drug Designation for the treatment of PAH by the FDA which would provide seven years of regulatory exclusivity in the U. S. if our imatinib formulation is the first to receive FDA approval for PAH. In addition, we **may** ~~expect to~~ file one or more patent applications to cover patentable subject matter that may result from our imatinib development. If granted, a patent would provide protection for 20 years from its filing date. The patent positions of pharmaceutical and biopharmaceutical companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in biopharmaceutical patents has emerged to date in the United States. The biopharmaceutical patent situation outside the United States is less certain still. Changes in either the patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in the patents we own. Further, if any of our patents are deemed invalid and unenforceable, it could impact our ability to commercialize or license our technology. ~~30The~~ -- **The** degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example: • others may be able to make compositions or formulations that are similar to our product candidates but that are not covered by the claims of our patents; • we might not have been the first to make the inventions covered by our issued patents or pending patent applications; • we might not have been the first to file patent applications for these inventions; • others may independently develop similar or alternative technologies or duplicate any of our technologies; • it is possible that our pending patent applications will not result in issued patents; • our issued patents may not provide us with any competitive advantages, or may be held invalid or unenforceable as a result of legal challenges by third parties; • we may not develop additional proprietary technologies that are patentable; or • the patents of others may have an adverse effect on our business. We also may rely on trade secrets to protect our technology, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors, outside scientific collaborators and other advisors may unintentionally or willfully disclose our information to competitors. Enforcing a claim that a third party illegally obtained and is using any of our trade secrets is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States are sometimes less willing to protect trade secrets. Moreover, our competitors may independently develop equivalent knowledge, methods and know- how. ~~We rely on confidentiality agreements that, if breached, may be difficult to enforce and could have a material adverse effect on our business and competitive position.~~ Our policy is to enter into agreements relating to the non- disclosure and non- use of confidential information with third parties, including our contractors, consultants, advisors and research collaborators, as well as agreements that purport to require the disclosure and assignment to us of the rights to the ideas, developments, discoveries and inventions of our employees and consultants while we employ them. However, these agreements can be difficult and costly to enforce. Moreover, to the extent that our contractors, consultants, advisors and research collaborators apply or independently develop intellectual property in connection with any of our projects, disputes may arise as to the proprietary rights to the intellectual property. If a dispute arises, a court may determine that the right belongs to a third party, and enforcement of our rights can be costly and unpredictable. In addition, we rely on trade secrets and proprietary know- how that we seek to protect in part by confidentiality agreements with our employees, contractors, consultants, advisors or others. Despite the protective measures we employ, we still face the risk that: • these agreements may be breached; • these agreements may not provide adequate remedies for the applicable type of breach; or • our trade secrets or proprietary know- how will otherwise become known. Any breach of our confidentiality agreements or our failure to effectively enforce such agreements would have a material adverse effect on our

business and competitive position ~~. We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights and we may be unable to protect our rights to, or use, our technology~~. If we or our partners choose to go to court to stop someone else from using the inventions claimed in our patents, that individual or company has the right to ask the court to rule that these patents are invalid and / or should not be enforced against that third party. These lawsuits are expensive and would consume time and other resources even if we were successful in stopping the infringement of these patents. In addition, there is a risk that the court will decide that these patents are not valid and that we do not have the right to stop the other party from using the inventions. There is also the risk that, even if the validity of these patents is upheld, the court will refuse to stop the other party on the ground that such other party' s activities do not infringe our rights to these patents. ~~31Furthermore~~ -- **Furthermore** , a third party may claim that we or our manufacturing or commercialization partners are using inventions covered by the third party' s patent rights and may go to court to stop us from engaging in our normal operations and activities, including making or selling our product candidates. These lawsuits are costly and could affect our results of operations and divert the attention of managerial and technical personnel. There is a risk that a court would decide that we or our commercialization partners are infringing the third party' s patents and would order us or our partners to stop the activities covered by the patents. In addition, there is a risk that a court will order us or our partners to pay the other party damages for having violated the other party' s patents. We have agreed to indemnify certain of our commercial partners against certain patent infringement claims brought by third parties. The biotechnology **and pharmaceutical** ~~industry~~ **industries** ~~has~~ **have** produced a proliferation of patents, and it is not always clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, we would need to demonstrate that our products or methods of use either do not infringe the patent claims of the relevant patent and / or that the patent claims are invalid, and we may not be able to do this. Proving invalidity, in particular, is difficult since it requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Because some patent applications in the United States may be maintained in secrecy until the patents are issued, because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing and because publications in the scientific literature often lag behind actual discoveries, we cannot be certain that others have not filed patent applications for technology covered by our issued patents or our pending applications, or that we were the first to invent the technology. Our competitors may have filed, and may in the future file, patent applications covering technology similar to ours. Any such patent application may have priority over our patent applications or patents, which could further require us to obtain rights to issued patents by others covering such technologies. If another party has filed a U. S. patent application on inventions similar to ours, we may have to participate in an interference proceeding declared by the USPTO to determine priority of invention in the United States. The costs of these proceedings could be substantial, and it is possible that such efforts would be unsuccessful if, unbeknownst to us, the other party had independently arrived at the same or similar invention prior to our own invention, resulting in a loss of our U. S. patent position with respect to such inventions. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations. Under current law, we may not be able to enforce all employees' covenants not to compete and therefore may be unable to prevent our competitors from benefiting from the expertise of some of our former employees. We have entered into non- competition agreements with certain of our employees. These agreements prohibit our employees, if they cease working for us, from competing directly with us or working for our competitors for a limited period. Under current law, we may be unable to enforce these agreements against certain of our employees and it may be difficult for us to restrict our competitors from gaining the expertise our former employees gained while working for us. If we cannot enforce our employees' non- compete agreements, we may be unable to prevent our competitors from benefiting from the expertise of our former employees. ~~We may infringe or be alleged to infringe intellectual property rights of third parties.~~ Our products or product candidates may infringe on, or be accused of infringing on, one or more claims of an issued patent or may fall within the scope of one or more claims in a published patent application that may be subsequently issued and to which we do not hold a license or other rights. Third parties may own or control these patents or patent applications in the United States and abroad. These third parties could bring claims against us or our collaborators that would cause us to incur substantial expenses and, if successful against us, could cause us to pay substantial damages. Further, if a patent infringement suit were brought against us or our collaborators, we or they could be forced to stop or delay research, development, manufacturing or sales of the product or product candidate that is the subject of the suit. ~~32If~~ **If** we are found to infringe the patent rights of a third party, or in order to avoid potential claims, we or our collaborators may choose or be required to seek a license from a third party and be required to pay license fees or royalties or both. These licenses may not be available on acceptable terms, or at all. Even if we or our collaborators were able to obtain a license, the rights may be nonexclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we or our collaborators are unable to enter into licenses on acceptable terms. There have been substantial litigation and other proceedings regarding patent and other intellectual property rights in the pharmaceutical and biotechnology industries. In addition to infringement claims against us, we may become a party to other patent litigation and other proceedings, including interference proceedings declared by the USPTO and opposition proceedings in the European Patent Office, regarding intellectual property rights with respect to our products. Our products, after commercial launch, may become subject to Paragraph IV certification under the Hatch- Waxman Act, thus forcing us to initiate infringement proceedings against such third- party filers. The cost to us of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties

resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time. Some of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We try to ensure that our employees do not use the proprietary information or know- how of others in their work for us. We may, however, be subject to claims that we or these employees have inadvertently or otherwise used or disclosed intellectual property, trade secrets or other proprietary information of any such employee' s former employer. Litigation may be necessary to defend against these claims and, even if we are successful in defending ourselves, could result in substantial costs to us or be distracting to our management. If we fail to defend any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel ~~. Risks Related to Owning Our Common Stock Our share price has been volatile, and may continue to be volatile, which may subject us to securities class action litigation in the future~~ . Our stock price has in the past been, and is likely to be in the future, volatile. The stock market in general, and the market for biopharmaceutical companies in particular, has experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, our existing stockholders may not be able to sell their stock at a favorable price. The market price for our Common Stock may be influenced by many factors, including: • actual or anticipated fluctuations in our financial condition and operating results; • share price and volume fluctuations attributable to inconsistent trading volume levels of our shares; • status and / or results of our clinical trials; • status of ongoing litigation; • results of clinical trials of our competitors' products; • regulatory actions with respect to our products or our competitors' products; • actions and decisions by our collaborators or partners; • actual or anticipated changes in our growth rate relative to our competitors; • actual or anticipated fluctuations in our competitors' operating results or changes in their growth rate; • ~~competition from existing products or new products that may emerge; •~~ issuance of new or updated research or reports by securities analysts; • fluctuations in the valuation of companies perceived by investors to be comparable to us; • ~~share price and volume fluctuations attributable to inconsistent trading volume levels of our shares; •~~ market conditions for biopharmaceutical stocks in general; • status of our search and selection of future management and leadership; and • general economic and market conditions, including as a result of ~~epidemics or other~~ disruptive events broadly affecting society, and as a result of geopolitical uncertainties, including in the Middle East and the Russian invasion of and war against the country of Ukraine. ~~33Some~~ -- **Some** companies that have had volatile market prices for their securities have had securities class action lawsuits filed against them. Such lawsuits, should they be filed against us in the future, could result in substantial costs and a diversion of management' s attention and resources. This could have a material adverse effect on our business, results of operations and financial condition. ~~Anti- takeover provisions in~~ **For the foreseeable future, to finance our operations, including possible acquisitions** ~~our~~ - **or** ~~corporate charter documents and under Delaware law could make~~ **strategic transactions, we expect to issue equity securities, resulting in the dilution of the ownership interests of our present stockholders. We are currently authorized to issue** an ~~acquisition~~ **aggregate** of **400** ~~us more difficult~~ , **000** ~~which could discourage takeover attempts and lead to management entrenchment~~ , **000 shares** ~~and the market price~~ of ~~our~~ common stock ~~may be lower as~~ **and 10, 000, 000 shares of preferred stock. As of December 31, 2024, there were 3, 420, 906 shares of common stock outstanding, 19, 874, 360 shares underlying warrants with** a ~~result~~ **weighted average exercise price of $ 5. 77 per share, 31, 882, 671 shares underlying pre- funded warrants with an exercise price of $ 0. 01 per share, and 3, 126, 750 shares underlying options with a weighted average exercise price of $ 6. 96 per share. We may also issue additional shares of our common stock or other securities that are convertible into or exercisable for common stock in connection with hiring or retaining employees, or for other business purposes. The future issuance of any such additional shares of common stock or common stock equivalents may create downward pressure on the trading price of our common stock** . Certain provisions in our Certificate of Incorporation, as amended (the " Charter "), and our Fourth Amended and Restated Bylaws (the " Bylaws "), may make it difficult for a third party to acquire, or attempt to acquire, control of the Company, even if a change in control was considered favorable by the stockholders. For example, our Board of Directors has the authority to issue up to 10, 000, 000 shares of preferred stock. The Board can fix the price, rights, preferences, privileges and restrictions of the preferred stock without any further vote or action by our stockholders. The issuance of shares of preferred stock may delay or prevent a change in control transaction. As a result, the market price of our common stock and the voting and other rights of our stockholders may be adversely affected. An issuance of shares of preferred stock may result in the loss of voting control to other stockholders. Our organizational documents also contain other provisions that could have an anti- takeover effect, including provisions that: • provide that vacancies on the Board of Directors may be filled only by a majority of directors then in office, even though less than a quorum; • eliminate cumulative voting in the election of directors; • grant the Board of directors the authority to increase or decrease the size of the Board; • prohibit stockholders from calling a special meeting of stockholders; • require that stockholders give advance notice to nominate directors or submit proposals for consideration at stockholder meetings; and • authorize the Board of Directors, by a majority vote, to amend the Bylaws. In addition, we are subject to the anti- takeover provisions of Section 203 of the Delaware General Corporation Law, which limit the ability of stockholders owning in excess of 15 % of our outstanding voting stock to merge or combine with us. These provisions could discourage potential acquisition proposals and could delay or prevent a change in control transaction. They could also have the effect of discouraging others from making tender offers for our common stock, including transactions that may be in stockholder best interests. These provisions may also prevent changes in our management or limit the price that certain investors are willing to pay for our stock. 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 for any internal corporate claims, including without limitation (i) any derivative action or proceeding brought on behalf of us, (ii) 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, (iii) any action asserting a claim arising pursuant to any provision of the General Corporation Law of the State of Delaware, and (iv) 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. This provision would not apply to suits brought to enforce a duty or liability created by the Securities and Exchange Act of 1934, as amended (the " Exchange Act ") or the Securities Act of 1933, as amended (the " Securities Act "), or any other claim for which federal courts have exclusive jurisdiction. ~~34This~~ -- **This** exclusive forum provision may limit a stockholder' s ability to bring a claim in a judicial forum of its choosing for disputes with us or our directors, officers or other employees, which may discourage lawsuits against us and our directors, officers and other employees or could result in increased costs for our stockholders to bring a claim in the chosen forum. If a court were to find the exclusive forum provision in our Bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could harm our results of operations. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management and other employees ~~. We have not paid cash dividends in the past and do not expect to pay dividends in the future. Any return on investment may be limited to the value of our common stock~~ . We have never declared or paid any cash dividends on shares of our common stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our Board of Directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments ~~. Our ability to use our net operating loss carryforwards and certain other tax attributes to offset future taxable income may be subject to certain limitations~~ . We have U. S. federal net operating loss carryforwards (" NOLs "), which expire in various years if not utilized. In addition, we have federal research and development credit carryforwards. The federal research and development credit carryforwards expire in various years if not utilized. Under Sections 382 and 383 of Internal Revenue Code of 1986, as amended (the " Code "), if a corporation undergoes an " ownership change, " the corporation' s ability to use its pre- change NOLs and other pre- change tax attributes, such as research tax credits, to offset its future post- change income and taxes may be limited. In general, an " ownership change " occurs if there is a cumulative change in our ownership by " 5 % shareholders " that exceeds 50 percentage points over a rolling three- year period. Similar rules may apply under state tax laws. We have not performed a formal study to determine whether any of our NOLs are subject to these limitations. We have recorded deferred tax assets for our NOLs and research and development credits and have recorded a full valuation allowance against these deferred tax assets. In the event that it is determined that we have in the past experienced additional ownership changes, or if we experience one or more ownership changes as a result of future transactions in our stock, then we may be further limited in our ability to use our NOLs and other tax assets to reduce taxes owed on the net taxable income that we earn in the event that we attain profitability. Any such limitations on the ability to use our NOLs and other tax assets could adversely impact our business, financial condition and operating results in the event that we attain profitability. ~~35~~