

Prospectus Supplement
(To Prospectus Dated December 16, 2022)

Up to \$1,081,307 of Shares of Common Stock

TRANSCODE

THE THERAPEUTICS™

This prospectus supplement relates to the issuance and sale of up to one million, eighty one thousand, three hundred and seven dollars (\$1,081,307) (the “Commitment Amount”) in shares of the common stock, \$0.0001 per share (“common stock”), of TransCode Therapeutics, Inc., a Delaware corporation (“TransCode” or the “Company”), to White Lion Capital LLC (“White Lion”) pursuant to a purchase agreement (the “White Lion Purchase Agreement”) entered into on April 13, 2023. If we have not provided White Lion with purchase notices for at least 1,500,000 shares or shares with an aggregate purchase price equal to the Commitment Amount by May 31, 2023, we have agreed to deliver to White Lion by June 2, 2023 an amount of shares equal to the difference of 1,500,000 shares of common stock less the amount of shares the Company has sold to White Lion by May 31, 2023. This prospectus supplement also covers the registration of any shares of common stock we issue to White Lion pursuant to this term of the White Lion Purchase Agreement. This prospectus supplement and the accompanying prospectus also cover the resale of these shares by White Lion to the public. See “*Purchase Agreement with White Lion*” for a description of the White Lion Purchase Agreement and additional information regarding White Lion. White Lion is an “underwriter” of these shares within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended.

The shares being offered are shares of our common stock that we may sell from time to time until May 31, 2023, at our sole discretion, to White Lion under the White Lion Purchase Agreement. See “*The Offering*” on page [S-2](#) of this prospectus supplement and “*Purchase Agreement with White Lion*” on page [S-4](#) of this prospectus supplement.

The purchase price for the shares of common stock offered hereby to White Lion will be based upon formulas set forth in the White Lion Purchase Agreement. We will pay the expenses incurred in connection with the issuance of the shares of our common stock, including legal and accounting fees. See “*Plan of Distribution*” on page [S-13](#) of this prospectus supplement.

Our common stock is listed on The Nasdaq Capital Market under the symbol “RNAZ.” On April 12, 2023, the last reported sale price for our common stock on The Nasdaq Capital Market was \$ 0.39 per share.

We are an “emerging growth company,” as that term is used in the Jumpstart Our Business Startups Act of 2012, or JOBS Act, and, as such, we have elected to comply with certain reduced public company reporting requirements.

Investing in our common stock involves a high degree of risks. See “*Risk Factors*” beginning on page [S-5](#).

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

Based on the last reported sale price of our common stock of \$0.67 per share, as reported on the Nasdaq Capital Market on February 15, 2023, the aggregate market value of our public float, calculated according to General Instruction I.B.6. of Form S-3, is \$7,743,922 based on 15,823,5344 shares of our common stock outstanding as of March 30, 2023, of which 11,558,092 shares of our common stock are held by non-affiliates. We have sold \$1,500,000 of securities pursuant to General Instruction I.B.6. of Form S-3 during the prior 12 calendar month period that ends on, and includes, the date of this prospectus supplement.

The date of this prospectus supplement is April 13, 2023

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About this Prospectus Supplement

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus dated December 16, 2022, including the documents incorporated by reference therein, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

Neither we nor White Lion have authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or in any free writing prospectus that we have authorized for use in connection with this offering. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement and the accompanying prospectus do not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this prospectus supplement and the accompanying prospectus in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer or solicitation of an offer in such jurisdiction. The information contained in this prospectus supplement, the accompanying prospectus, any free writing prospectus that we have authorized for use in connection with this offering, including the documents incorporated by reference herein or therein is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock. It is important for you to read and consider all information contained in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections titled “Where you can find more information” and “Incorporation of Certain Information by Reference” in this prospectus supplement and in the accompanying prospectus.

We are offering to sell shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States.

Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus supplement, the accompanying prospectus and the information incorporated by referenced herein or therein to “TransCode,” “the Company,” “we,” “us,” “our” and similar terms refer to TransCode Therapeutics, Inc., a Delaware corporation.

Trademarks, Service Marks and Trade Names

We own, have applied for or have rights to use one or more registered and common law trademarks, service marks and/or trade names in connection with our business in the United States and/or in certain foreign jurisdictions.

This prospectus supplement, the accompanying prospectus and our other public filings may contain trademarks, service marks and trade names of third-parties which are the property of their respective owners. Our use or display of third-parties' trademarks, service marks, trade names or products in this prospectus supplement, the accompanying prospectus and our other public filings is not intended to, and does not imply a relationship with, or endorsement or sponsorship by us. Solely for convenience, the trademarks, service marks, logos and trade names referred to in this prospectus supplement, the accompanying prospectus and our other public filings may appear without the ®, ™ or SM symbols, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable owner of or licensor to these trademarks, service marks and trade names.

This prospectus supplement and the accompanying prospectus contain additional trademarks, service marks and trade names of others, which are the property of their respective owners. All trademarks, service marks and trade names appearing in this prospectus and this prospectus supplement are, to our knowledge, the property of their respective owners. We do not intend our use or display of other companies' trademarks, service marks, copyrights or trade names to imply a relationship with, or endorsement or sponsorship of us by, any other company.

On October 20, 2021, TransCode Therapeutics, Inc. applied to the United States Commissioner of Trademarks to register TRANSCODE THERAPEUTICS as a trademark under International Class 005, pharmaceutical preparations for the treatment of cancer, diagnostic preparations for medical purposes, having Serial Number 97/083236. On March 15, 2023, we received an Official United States Patent and Trademark Office, or USPTO, Notice of Publication Under 12(a) for publication on April 4, 2023, setting forth a thirty (30) day objection period, whereby if no objection is filed, the USPTO will issue a Notice of Allowance. For the purpose of this prospectus supplement and the accompanying prospectus, TransCode Therapeutics® is referred to as TransCode. Additionally, "we", "our", "us" and "the company" will refer to TransCode.

Prospectus Supplement Summary

This summary highlights selected information about us and this offering and does not contain all of the information that you should consider before investing in our common stock. You should read this prospectus supplement carefully, especially the risks of investing in our common stock discussed under “Risk Factors” beginning on page S-5 of this prospectus supplement and in Part I, Item 1A “Risk Factors” of our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K that we file after the date of this prospectus supplement, which is incorporated by reference in this prospectus supplement, along with our consolidated financial statements and notes to those consolidated financial statements and the other information incorporated by reference in this prospectus supplement, before making an investment decision.

Overview

TransCode is an RNA oncology company created on the belief that cancer can be defeated through the intelligent design and effective delivery of RNA therapeutics. For decades, ribonucleic acid, or RNA, has been a topic of investigation by the scientific community as a potentially attractive therapeutic modality because it can target any gene and it lends itself to rational and straightforward drug design. RNA-based therapeutics are highly selective to their targets, potentially making available a broad array of previously undruggable targets in the human genome.

TransCode has created a design engine to customize the development of RNA therapeutics that is modular, both at the levels of the core nanoparticle and therapeutic loading. The size, charge, and surface chemistry of the core iron oxide nanoparticle can be tuned to optimize the particles for the intended genetic target and therapeutic load. The therapeutic load, consisting of synthetic oligonucleotides, can also be adapted to the specific approach being developed. The approach can range from RNA interference, or RNAi, including small interfering RNAs, antisense oligonucleotides, and non-coding RNA mimics to mRNA-based cancer vaccines and CRISPR-based gene repair and replacement platforms as well as Pattern Recognition Receptors such as retinoic acid inducible gene, or RIG-I. The platform can further be used for developing RNA-targeted radiolabeled therapeutics and diagnostics and other custom products targeting known and novel biomarkers and other genetic elements as they are discovered and validated. The TTX platform is intended to overcome delivery issues of stability, efficiency, and immunogenicity faced by existing lipid and liposomal nanoparticle platforms while optimizing targeting of and accumulation in tumor cells and metastatic sites.

The ability to deliver RNA therapeutics inside tumors and metastases should give us the potential to target genes of importance for cancer treatment that have remained undruggable using an RNA approach.

Our lead therapeutic candidate, TTX-MC138, targets microRNA-10b, or miRNA-10b, a master regulator of metastatic cell viability in a range of cancers, including breast, pancreatic, ovarian, colon cancer, glioblastomas, and several others. In December 2022, TransCode received authorization from the U.S. Food and Drug Administration, or FDA, to conduct a Phase 0 clinical trial intended to demonstrate quantitative delivery of TTX-MC138 to metastatic lesions in subjects with advanced solid tumors. We also intend to complete investigational new drug, or IND, enabling studies with TTX-MC138 in support of our planned IND application for a Phase I/II clinical trial with TTX-MC138.

Our other preclinical programs include two solid tumor programs, TTX-siPDL1, an siRNA-based modulator of programmed death-ligand 1, or PD-L1, and TTX-siLIN28B, an siRNA-based inhibitor of RNA-binding protein LIN28B. TransCode also has three cancer agnostic programs, TTX-RIGA, an RNA-based agonist of the retinoic acid-inducible gene I, or RIG-I, targeting activation of innate immunity in the tumor microenvironment; TTX-CRISPR, a CRISPR/Cas9-based therapy platform for the repair or elimination of cancer-causing genes inside tumor cells; and TTX-mRNA, an mRNA-based platform for the development of cancer vaccines designed to activate cytotoxic immune responses against tumor cells.

The Offering

Common Stock offered by us . .	Up to \$1,081,307 of shares of our common stock.
Common stock outstanding before this offering ⁽¹⁾	15,823,534 shares of common stock.
Common Stock to be outstanding after this offering ⁽¹⁾	<p>18,591,148 shares of common stock, assuming the sale of 2,767,614 shares at a price of \$0.39 per share, which was the closing price of our common stock on the Nasdaq Capital Market (“Nasdaq”) on April 12, 2023, for the \$1,081,307 of shares of our Common Stock we may sell to White Lion from time to time. The actual number of shares issued will vary depending on the sales prices under this offering, but will not be greater than 3,163,124 shares (including any other shares issued pursuant to the White Lion Purchase Agreement), representing 19.99% of the shares of our common stock outstanding on the date of the White Lion Purchase Agreement, unless, in accordance with applicable Nasdaq rules, we obtain stockholder approval of the issuance of shares of our common stock under the White Lion Purchase Agreement in excess of the Exchange Cap (as defined therein), or the average price of all applicable sales of our common stock to White Lion under the White Lion Purchase Agreement is equal to or greater than the \$0.39 Minimum Price (as defined therein).</p> <p>If we have not provided White Lion with purchase notices for at least 1,500,000 shares or shares with an aggregate purchase price equal to the Commitment Amount by May 31, 2023, we have agreed to deliver to White Lion by June 2, 2023 an amount of shares equal to the difference of 1,500,000 shares of common stock less the amount of shares the Company has sold to White Lion by May 31, 2023. This prospectus supplement also covers the registration of any shares of common stock we issue to White Lion pursuant to this term of the White Lion Purchase Agreement.</p>
Use of Proceeds	We intend to use the net proceeds of this offering for working capital and general corporate purposes. See “ <i>Use of Proceeds</i> ” for more information.
Nasdaq Capital Market Symbol	RNAZ
Risk Factors	Investing in our securities involves a high degree of risk. See “ <i>Risk Factors</i> ” beginning on page S-4 for important information.

(1) The number of shares of common stock is based on 15,823,534 shares of common stock outstanding as of March 31, 2023, and excludes, as of that date, the following:

- 3,017,033 shares of common stock issuable upon exercise of outstanding stock options at a weighted average exercise price of \$0.74 per share;
- 761,741 shares of common stock issuable upon the exercise of outstanding common stock purchase warrants at an average exercise price of \$2.39 per share;
- 2,450,351 shares of common stock reserved for future issuance under our 2021 Stock Option and Equity Incentive Plan, or the 2021 Plan; and
- 330,000 shares of common stock reserved for future issuance under our 2021 Employee Stock Purchase Plan, or our 2021 ESPP.

Except as otherwise indicated herein, all information in this prospectus assumes the following:

- no exercise of outstanding options or warrants.

Purchase Agreement With White Lion

On April 13, 2023, we entered into the White Lion Purchase Agreement with White Lion under which the Company may require White Lion to purchase a maximum of \$1,081,307 shares of common stock (“White Lion Purchase Shares”) over a term that ends on the earlier of (i) May 31, 2023 or (ii) the date on which White Lion shall have made payment for shares of our common stock equal to the Commitment Amount (the “Commitment Period”).

The White Lion Purchase Agreement provides that, upon the terms and subject to the conditions and limitations set forth in the agreement, the Company has the right, but not the obligation, from time to time, in its sole discretion, to deliver to White Lion a purchase notice (a “White Lion Purchase Notice”) directing White Lion to purchase (each, a “White Lion Purchase”) a specified dollar amount of White Lion Purchase Shares (the “White Lion Purchase Amount”) equal to the lesser of (i) up to sixty two and one-half percent (62.5%) of the average daily trading volume of the common stock during the five (5) business days before the date of the White Lion Purchase Notice, or (ii) the Investment Limit (described below) divided by the highest closing price of the common stock over the most recent five (5) business days including the purchase date. The Investment Limit is \$600,000, subject to increase at the sole discretion of White Lion.

The “White Lion Purchase Price” will be set at ninety-two percent (92%) of the lower of (1) the lowest daily dollar volume-weighted average price for the common stock during the two (2) business days after the date of the White Lion Purchase Notice (the “Valuation Period”) and (2) the lowest closing price of our common stock during such Valuation Period. On the last day of the Valuation Period, White Lion will wire the Company an amount equal to the number of shares specified on the White Lion Purchase Notice multiplied by the White Lion Purchase Price.

The White Lion Purchase Agreement prohibits the Company from directing White Lion to purchase any shares of common stock if those shares, when combined with all other shares of our common stock then beneficially owned by White Lion and its affiliates, would result in their combined beneficial ownership, at any single point in time, of more than 9.99% of the then total outstanding shares of common stock.

If the Company has not provided White Lion with purchase notices for at least 1,500,000 shares or shares with an aggregate purchase price equal to the Commitment Amount by May 31, 2023, then the Company has agreed to deliver to White Lion by June 2, 2023 an amount of shares equal to the difference of 1,500,000 shares of common stock less the amount of shares the Company has sold to White Lion by May 31, 2023.

The Company may terminate the White Lion Purchase Agreement at any time in the event of a material breach of the Agreement by White Lion. In addition, the White Lion Purchase Agreement automatically terminates on the earlier of (i) the end of the Commitment Period or (ii) the date that, pursuant to or within the meaning of any bankruptcy law, the Company commences a voluntary case or any person commences a proceeding against the Company.

The aggregate number of shares of common stock that the Company can sell to White Lion under the White Lion Purchase Agreement (together with any other shares issued pursuant to the White Lion Purchase Agreement) may in no case exceed 3,163,124 shares of our common stock (which is equal to 19.99% of the shares of common stock outstanding immediately prior to the execution of the White Lion Purchase Agreement) (the “Exchange Cap”), unless (i) stockholder approval is obtained to issue purchase shares above the Exchange Cap, in which case the Exchange Cap will no longer apply or (ii) the average price of all shares of our common stock issued to White Lion under the White Lion Purchase Agreement equals or exceeds \$0.39 per share (which represents the average of the five official closing prices of the Company’s common stock on Nasdaq immediately preceding the signing of the Purchase Agreement), such that the transactions contemplated by the White Lion Purchase Agreement are exempt from the Exchange Cap limitation under applicable Nasdaq rules. In any event, the White Lion Purchase Agreement specifically provides that the Company may not issue or sell any shares of its common stock under the White Lion Purchase Agreement if such issuance or sale would breach any applicable rules or regulations of the Nasdaq.

The above description of the White Lion Purchase Agreement is qualified in its entirety by reference to the White Lion Purchase Agreement, which is incorporated by reference into this prospectus supplement.

Risk Factors

Investing in our common stock involves a high degree of risk. Before making an investment decision, you should carefully consider the risks described below and the risk factors incorporated by reference to our most recent Annual Report on Form 10-K, any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, as well as the other information in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. Our business, prospects, financial condition, or operating results could be harmed by any of these risks, as well as other risks not currently known to us or that we currently consider immaterial. If any such risks or uncertainties actually occur, our business, prospects, financial condition or operating results could differ materially from the plans, projections and other forward-looking statements included in the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our [Annual Report on Form 10-K for the fiscal year ended December 31, 2022](#), incorporated by reference into this prospectus supplement and the accompanying prospectus. The trading price of our common stock could decline significantly due to any of these risks or other factors, and as a result, you may lose all or part of your investment.

Sales of our common stock to White Lion may cause substantial dilution to our existing stockholders and the sale of common stock acquired by White Lion could cause the price of our common stock to decline.

This prospectus supplement relates to the offering of our common stock with an aggregate amount of up to \$1,081,307 that we may issue and sell to White Lion from time to time pursuant to the White Lion Purchase Agreement. It is anticipated that the common stock offered to White Lion in this offering will be sold from time to time during the Commitment Period. The number of shares ultimately offered for sale to White Lion under this prospectus supplement is dependent upon the number of shares we elect to sell to White Lion under the White Lion Purchase Agreement. Depending upon market liquidity at the time, sales into the public markets of shares we issue to White Lion under the White Lion Purchase Agreement may cause the trading price of our common stock to decline.

White Lion may ultimately purchase all, some or none of the shares offered hereby. After White Lion has acquired common stock under the White Lion Purchase Agreement, it may sell all, some or none of those shares. Sales to White Lion by us pursuant to the White Lion Purchase Agreement under this prospectus supplement may result in substantial dilution to the interests of other holders of our common stock. The sale of a substantial number of our shares to White Lion in this offering, or anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales. If we have not provided White Lion with purchase notices for at least 1,500,000 shares or shares with an aggregate purchase price equal to the Commitment Amount by May 31, 2023, however, we have agreed to deliver to White Lion by June 2, 2023 an amount of shares equal to the difference of 1,500,000 shares of common stock less the amount of shares we have sold to White Lion by May 31, 2023.

The extent to which we rely on White Lion as a source of funding will depend on a number of factors, including the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources.

We will require additional financing to sustain our operations, without which we may not be able to continue operations, and the terms of subsequent financings may adversely impact our stockholders.

We may direct White Lion to purchase up to \$1,081,307 worth of shares of our common stock under the White Lion Purchase Agreement until May 31, 2023, subject to the terms and conditions of the agreement, including that the number of shares sold pursuant to any purchase notice may not exceed the lesser of: (i) 62.5% of the average of the daily trading volume of our common stock over the five business days immediately preceding the date of delivery of a purchase notice; or (ii) \$600,000 divided by the highest closing price of the common stock over the most recent five business days immediately preceding receipt of a purchase notice. Our ability to sell shares to White Lion and obtain funds under the White Lion Purchase Agreement is limited by the terms and conditions in the White Lion Purchase Agreement, including restrictions on the amounts we may sell to White Lion at any one time, and a limitation on our ability to sell shares to White Lion to the extent that it would cause White Lion to beneficially own more than 9.99% of our outstanding shares of common stock. Additionally, we will only be able to sell or issue to White Lion

3,163,124 shares (subject to certain reductions and other adjustments pursuant to the White Lion Purchase Agreement, the “Exchange Cap”) in total under the White Lion Purchase Agreement, which is equal to 19.99% of the aggregate number of shares of Common Stock outstanding prior to execution of the White Lion Purchase Agreement, unless stockholder approval is obtained in excess of such amount or the average price paid for all shares of our common stock issued under the White Lion Purchase Agreement is equal to or greater than \$0.39 such that the above maximum share issuance limitation will not be applicable under Nasdaq listing rules. Therefore, we may not in the future have access to the full amount available to us under the White Lion Purchase Agreement, depending on the price of our common stock. In addition, any amounts we sell under the White Lion Purchase Agreement will not satisfy all of our funding needs, even if we are able and choose to sell and issue all of our common stock currently registered.

The extent we rely on White Lion as a source of funding will depend on a number of factors including the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources. Even if we sell all \$1,081,307 of common stock under the White Lion Purchase Agreement to White Lion, we will need additional capital to finance our future plans and working capital needs, and we expect to finance our cash needs through a combination of private and public equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. To the extent that we raise additional capital through the sale of common stock or securities convertible into or exchangeable for common stock, the ownership interest of our shareholders will be diluted, and the terms of these new securities may include liquidation or other preferences that materially adversely affect the rights of our shareholders. Debt financing, if available, would increase our fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third-parties, we may have to relinquish valuable rights to our intellectual property, future revenue streams, research programs or current or future therapeutic candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds when needed, we may be required to delay, scale back or discontinue the development and commercialization of one or more of our therapeutic candidates, delay our pursuit of potential licenses or acquisitions, or grant rights to develop and market current or future therapeutic candidates that we would otherwise prefer to develop and market ourselves.

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

Pursuant to the White Lion Purchase Agreement, we will have discretion, subject to market demand, to vary the timing, prices, and number of shares sold to White Lion. If and when we do elect to sell shares of our common stock to White Lion pursuant to the White Lion Purchase Agreement, White Lion may resell all, some or none of such shares at any time or from time to time in its discretion and at different prices. As a result, investors who purchase shares from White Lion in this offering at different times will likely pay different prices for those shares, and may therefore experience different levels of dilution and in some cases substantial dilution and different outcomes in their investment results. Investors may experience a decline in the value of the shares they purchase from White Lion in this offering as a result of future sales made by us to White Lion at prices lower than the prices such investors paid for their shares in this offering.

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

Our management will have broad discretion in the application of the net proceeds from the offering, including for any of the purposes described in “*Use of Proceeds.*” You will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used effectively. Because of the number and variability of factors that will determine our use of the net proceeds, their ultimate use may differ substantially from what we currently intend. The failure by our management to apply these funds effectively could adversely affect us. Pending their use, we may invest the net proceeds in short-term, investment-grade, interest-bearing securities or commercial bank accounts. While we intend to invest the net proceeds conservatively, there is no assurance that these investments will not decline in value or yield reasonable returns.

Cautionary Note Regarding Forward-Looking Statements

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein contain forward-looking statements within the meaning of the federal securities laws, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Exchange Act. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 and are included in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein for purposes of complying with those safe harbor provisions. All statements other than statements of historical facts contained in this prospectus supplement, the accompanying prospectus and our other public filings are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “could,” “expects,” “plans,” “intends,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue,” or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about our clinical development and trials, regulatory review and approvals, our results of operations and financial condition, liquidity, prospects, growth, strategies and the industry in which we operate. These forward-looking statements are subject to known and unknown risks and uncertainties, assumptions and other factors that could cause our actual results to differ materially from those expressed in, or implied by, these forward-looking statements. Factors that could cause these differences include, but are not limited to:

- the conduct and outcome of our Phase 0 clinical trial of a radiolabeled version of TTX-MC138, our lead therapeutic candidate focused on metastatic cancer treatment, and our ability to initiate and complete this trial;
- our ability to expand our therapeutic candidate portfolio through internal research and development or the acquisition or in-licensing of intellectual property assets;
- the impact of the global outbreak of the COVID-19 coronavirus, including the spread of new strains of the virus, on our activities as described above and otherwise, including but not limited to our ability to enroll a sufficient number of patients to advance the above-described clinical trial;
- the results and timing of our preclinical and clinical trial activities;
- the therapeutic benefits, effectiveness and safety of our therapeutic candidates;
- our ability to receive regulatory approval for our therapeutic candidates in the United States, Europe and other geographies;
- the expected regulatory approval pathway for our therapeutic candidates, and our ability to obtain, on satisfactory terms or at all, the financing required to support operations, research, development, clinical trials, and commercialization of products;
- our reliance on third-parties for the planning, conduct and monitoring of clinical trials, for the manufacture of clinical drug supplies and drug product, and for other requirements;
- potential changes in regulatory requirements, and delays or negative outcomes from the regulatory approval process;
- our estimates of the size and characteristics of the markets that may be addressed by our therapeutic candidates;
- market acceptance of our therapeutic candidates that are approved for marketing in the United States or other countries;
- our ability to successfully commercialize our therapeutic candidates;
- the safety and efficacy of therapeutics marketed by our competitors that are targeted to indications which our therapeutic candidates have been developed to treat;
- the impact of natural disasters, global pandemics (including further outbreaks of existing strains of COVID-19 or new variants of the virus), labor disputes, lack of raw materials or other supplies, issues with facilities and equipment or other forms of disruption to business operations at our manufacturing or laboratory facilities or those of our vendors;

- our ability to utilize our proprietary technological approach to develop and commercialize our therapeutic candidates;
- potential collaborators to license and commercialize any therapeutic candidates for which we receive regulatory approval in the future in or outside of the United States;
- our heavy dependence on licensed intellectual property, including our ability to source and maintain licenses from third-party owners;
- our ability to protect our intellectual property and operate our business without infringing the intellectual property rights of others;
- our ability to attract, retain and motivate key personnel;
- our ability to generate revenue and become profitable; and
- other risks and uncertainties, including those listed under the caption “*Risk Factors*” of this prospectus supplement.

The risks set forth above are not exhaustive. Other sections of this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus may include additional factors that could adversely affect our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for management to predict all risk factors, nor can we assess the impact of all risk factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Forward-looking statements contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus reflect our current views with respect to future events and with respect to our business and future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

Industry and Other Data

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference may include industry, market, competitive position and other data. We obtain such information from industry publications and research, surveys and studies conducted by third-parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. This prospectus supplement, the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus also may include data based on our own internal estimates and research, including estimates regarding the impact of the COVID-19 pandemic (or related pandemics caused by coronavirus variants) on our business, prospects, results of operations, and financial condition. Our internal estimates have not been verified by any independent source. While we believe any data obtained from industry publications and third-party research, surveys and studies and our own estimates are reliable, we have not independently verified such data. The industry in which we operate, as well as such third-party data and our internal estimates and research, are subject to a high degree of uncertainty and risks due to a variety of factors, including those described in “*Risk Factors*” elsewhere in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference. These and other factors could cause our results to differ materially from those expressed in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference.

Use of Proceeds

We may receive up to \$1,081,307 in aggregate gross proceeds under the White Lion Purchase Agreement from sales of our common stock with an aggregate offering amount of \$1,081,307 that we may make to White Lion after the date of this prospectus supplement. We estimate that the net proceeds we will receive from the sale of shares of our common stock to White Lion pursuant to the White Lion Purchase Agreement, assuming that we sell the full amount of the shares that we have the right, but not the obligation, to sell to White Lion under the White Lion Purchase Agreement, and after deducting estimated offering expenses payable by us will be approximately \$1,036,307. We may sell fewer than all of the shares offered by this prospectus supplement, in which case our net offering proceeds will be less. Because we are not obligated to sell any shares of common stock under the White Lion Purchase Agreement, the actual total offering amount and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will receive fully utilize the White Lion Purchase Agreement. See “*Plan of Distribution*” elsewhere in this prospectus supplement for more information.

We currently expect to use the net proceeds from this offering for working capital and other general corporate purposes.

From time to time in the ordinary course of our business, we may evaluate the acquisition of, investment in or in-licensing of additional therapeutic candidates that we believe are commercially viable or to develop ourselves. We could use a portion of the net proceeds from this offering for such purposes. We may also use a portion of the net proceeds of this offering for the acquisition or licensing of additional technologies, other assets or businesses, or for other strategic investments or opportunities, although we currently have no understandings, agreements or commitments with respect to any of the foregoing.

Although we currently anticipate that we will use the net proceeds from this offering as described above, there may be circumstances where we determine that a different use of our funds is in the best interest of the company. The amounts and timing of our actual expenditures will depend upon numerous factors, including results and progress of our clinical trial activities, results of and progress of our preclinical development activities, the progress of any partnering efforts we conduct, our operating costs, technological advances, the competitive environment for our therapeutic candidates and other factors described in the section titled “*Risk Factors*” in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein. Our management will have flexibility in applying the net proceeds from this offering and you will be relying on their judgment with regard to the use of these net proceeds. An investor purchasing shares of our common stock will not have the opportunity, as part of the investment decision, to evaluate the economic, financial or other information on which we base our decisions about how to use the proceeds or to make their own assessment of whether the proceeds are being used appropriately. It is possible that the net proceeds will be used in a way that does not yield a favorable, or any, return for us.

The net proceeds from this offering, together with our existing cash and SBIR funds, are not expected to be sufficient to fund advancement of any of our therapeutic candidates through regulatory approval. Thus, we expect we will need to raise additional capital to complete development and commercialization of our therapeutic candidates for which results are not guaranteed.

Pending our use of the net proceeds from this offering as described above, we intend to invest the net proceeds in investment grade interest bearing instruments or will hold the proceeds in interest bearing or non-interest-bearing accounts in U.S. banks.

We believe that the net proceeds from this offering, together with our existing cash and funds from our SBIR award, will enable us to fund our operating expenses and capital expenditure requirements into but not through the second quarter 2023. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. We will need to raise substantial additional funds to complete additional clinical trials on TTX-MC138, preclinical development work on other therapeutic candidates, and any clinical trials on our other therapeutic candidates before we can expect to commercialize any of our therapeutic candidates, if approved.

Dilution

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

As adjusted to give effect to our February 2023 sale of 2,846,300 shares of our common stock for net proceeds of \$1,196,050, at December 31, 2022, we had a pro forma net tangible book value of \$4,436,746 or \$0.2804 per share. Net tangible book value per share represents our total tangible assets (total assets less intangible assets) less total liabilities at that date, divided by the total number of our outstanding shares of common stock at that date.

After giving effect to the sale and issuance of \$1,081,307 of shares of common stock (without giving effect to the Exchange Cap) at an assumed offering price of \$0.39 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on April 12, 2023, and after deducting estimated offering expenses payable by us of \$45 thousand, our as adjusted pro forma net tangible book value at December 31, 2022, would have been \$5,473,053, or approximately \$0.2943 per share of our common stock. This represents an immediate increase in pro forma net tangible book value of approximately \$0.0139 per share to our existing stockholders and an immediate dilution of approximately \$0.096 per share to new investors.

The dilutive or accretive effect per share to investors participating in this offering is determined by subtracting the as adjusted net tangible book value per share after this offering from the offering price per share paid by investors participating in this offering. The following table illustrates these approximate results on a per share basis:

Assumed offering price per share	\$0.3900
Pro forma net tangible book value per share at December 31, 2022	\$0.2804
Increase in book value per share attributable to new investors	<u>\$0.0139</u>
As adjusted pro forma net tangible book value per share after this offering	\$0.2943
Dilution per share to new investors	<u><u>\$ 0.096</u></u>

The table and discussion above are based on 15,823,534 shares of common stock outstanding at March 31, 2023, and excludes, as of that date, the following:

- 3,017,033 shares of common stock issuable upon exercise of outstanding stock options at a weighted average exercise price of \$0.74 per share;
- 761,741 shares of common stock issuable upon the exercise of outstanding common stock purchase warrants at an average exercise price of \$2.39 per share;
- 2,450,351 shares of common stock reserved for future issuance under our 2021 Plan; and
- 330,000 shares of common stock reserved for future issuance under our 2021 ESPP.

To the extent that outstanding options or warrants are exercised, or shares are issued in connection with our equity incentive plans, you may experience dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that, in the future, additional capital is raised through the sale of equity, convertible debt securities, or securities with equity components, those issuances may result in dilution to our stockholders.

Dividend Policy

We have never declared or paid any cash dividends on our capital stock. We intend to retain all available funds and future earnings, if any, for development and expansion of our business. Any future determination regarding the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors deems relevant. Investors should not purchase our common stock with the expectation of receiving cash dividends.

Plan of Distribution

Pursuant to this prospectus supplement, we are offering up to \$1,081,307 in shares of our common stock to White Lion pursuant to the White Lion Purchase Agreement. If we have not provided White Lion with purchase notices for at least 1,500,000 shares of our common stock or shares with an aggregate purchase price equal to the Commitment Amount by May 31, 2023, we have agreed to deliver to White Lion by June 2, 2023 an amount of shares equal to the difference of 1,500,000 shares of common stock less the amount of shares we have sold to White Lion by May 31, 2023. This prospectus supplement also covers the resale of these shares by White Lion to the public.

We may, from time to time and at our sole discretion, direct White Lion to purchase shares of our common stock. The maximum amount of shares that may be sold on any single business day pursuant to a White Lion Purchase Notice generally shall not exceed the lesser of (i) such number of shares as would cause White Lion to beneficially own in excess of 9.99% of the number of our common stock outstanding immediately after giving effect to such issuance and sale, (ii) sixty-two and one-half (62.5%) of the average daily trading volume of the common stock during the five (5) business days before the date of the White Lion Purchase Notice, or (iii) the Investment Limit of \$600,000 divided by the highest closing price of the common stock over the most recent five (5) business days. The foregoing share amounts and related market prices will be adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring after the date of this prospectus supplement. The purchase price per share is based on the market price of our common stock at the time of sale as computed under the White Lion Purchase Agreement. White Lion may not assign or transfer its rights and obligations under the White Lion Purchase Agreement. See “*Purchase Agreement With White Lion.*”

White Lion is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act. White Lion is not a licensed broker-dealer or an affiliate of a licensed broker-dealer, and is not a member of the Financial Industry Regulatory Authority. White Lion has informed us that it intends to use one or more registered broker-dealers to effectuate all sales, if any, of our common stock that it may acquire from us pursuant to the White Lion Purchase Agreement. Such sales will be made at prices and at terms then prevailing or at prices related to the then current market price. Each such registered broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. White Lion has informed us that each such broker-dealer may receive commissions from White Lion and, if so, such commissions will not exceed customary brokerage commissions.

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

We estimate that the total expenses for the offering will be approximately \$45 thousand.

We have agreed to indemnify White Lion and certain other persons against certain liabilities in connection with the offering of shares of our common stock offered hereby, including liabilities arising under the Securities Act. White Lion has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by White Lion specifically for use in this prospectus supplement or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

White Lion also agreed that neither it, nor any of its affiliates, would execute any short sales during the period from April 13, 2023 to the end of the Commitment Period.

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

This offering will terminate on the earlier of (i) May 31, 2023 or (ii) the date on which White Lion shall have made payment for shares of our common stock equal to the Commitment Amount.

Our common stock is listed on the Nasdaq Capital Market and trades under the symbol “RNAZ.” The transfer agent of our common stock is VStock Transfer, LLC.

Legal Matters

Goodwin Procter LLP, Boston, Massachusetts, which has acted as our counsel in connection with this offering, will pass upon the validity of the shares of common stock offered hereby.

Experts

Our financial statements as of and for the years ended December 31, 2022 and 2021, in our Annual Report on Form 10-K for the year ended December 31, 2022 have been audited by WithumSmith+Brown, PC, independent registered public accounting firm, and included in such Annual Report and incorporated by reference herein in reliance upon the report (which report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern) upon the authority of said firm as experts in accounting and auditing.

Where You Can Find More Information

We are subject to the information requirements of the Exchange Act and, in accordance therewith, file annual, quarterly and special reports, proxy statements and other information with the SEC. These documents also may be accessed through the SEC's electronic data gathering, analysis and retrieval system, or EDGAR, via electronic means, including the SEC's home page on the internet (www.sec.gov). You may also inspect the registration statement and this prospectus on this SEC website.

We have the authority to designate and issue more than one class or series of stock having various preferences, conversion and other rights, voting powers, restrictions, limitations as to dividends, qualifications, and terms and conditions of redemption. We will furnish a full statement of the relative rights and preferences of each class or series of our stock which has been so designated and any restrictions on the ownership or transfer of our stock to any shareholder upon request and without charge. Written requests for such copies should be directed to our Investor Relations Department, TransCode Therapeutics, Inc., 6 Liberty Square, #2382, Boston, Massachusetts 02109. Our website is located at <https://www.transcodetherapeutics.com/>. Information contained on our website is not incorporated by reference into this prospectus supplement or the accompanying prospectus, and, except for the documents incorporated by reference as noted below, you should not consider any information on, or that can be accessed from, our website as part of this prospectus supplement or the accompanying prospectus.

Incorporation by Reference

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus supplement and the accompanying prospectus, and information that we file after the date hereof with the SEC will automatically update and supersede the information already incorporated by reference. We are incorporating by reference the documents listed below, which we have already filed with the SEC, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any future report or document that is not deemed filed under such provisions, after the date of this prospectus supplement and prior to the termination of this offering:

- [our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on March 31, 2023](#);
- [our Definitive Proxy Statement on Schedule 14A \(other than information furnished rather than filed\), filed with the SEC on April 10, 2023](#);
- our Current Reports on Form 8-K filed with the SEC on [February 17, 2023](#) and [March 31, 2023](#); and
- the description of our common stock contained in our registration statement on [Form 8-A filed with the SEC on April 26, 2021](#), as supplemented by the description of our common stock contained in [Exhibit 4.1 to our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on March 31, 2023](#), and any amendment or report filed with the SEC for the purpose of updating such description.

Pursuant to Rule 412 under the Securities Act, any statement contained in a document incorporated or deemed to be incorporated by reference into this prospectus supplement and the accompanying prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus supplement, the accompanying prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus supplement and the accompanying prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

Upon request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus supplement and the accompanying prospectus is delivered, a copy of the documents incorporated by reference into this prospectus supplement and the accompanying prospectus but not delivered with the prospectus. You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus supplement and the accompanying prospectus, at no cost, by writing to us at the following address: Investor Relations Department, TransCode Therapeutics, Inc., 6 Liberty Square, #2382, Boston, Massachusetts 02109. These filings may also be obtained through our website located at <https://www.transcodetherapeutics.com/>. The reference to our website is intended to be an inactive textual reference and, except for the documents incorporated by reference as noted above, the information on, or accessible through, our website is not intended to be part of this prospectus supplement and the accompanying prospectus.

You should rely only on the information incorporated by reference or provided in this prospectus supplement and the accompanying prospectus. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus supplement, the accompanying prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus supplement, and the accompanying prospectus or those documents.

We advise that there have been no material changes in our affairs that have occurred since the end of the latest fiscal period for which audited financial statements were included in our latest Form 10-K that have not been described in a Form 10-Q or Form 8-K filed subsequently under the Exchange Act.

PROSPECTUS

\$150,000,000

TRANSCODE

THERAPEUTICS™

**Common Stock
Preferred Stock
Debt Securities
Warrants
Units**

We may from time to time issue, in one or more series or classes, up to \$150,000,000 in aggregate principal amount of our common stock, preferred stock, debt securities, warrants and/or units, in any combination, together or separately, in one or more offerings, in amounts, at prices and on the terms that we will determine at the time of the offering and which will be set forth in a prospectus supplement and any related free writing prospectus.

We may offer these securities separately or together in units. Each time we sell securities described herein, we will provide prospective investors with a supplement to this prospectus that will specify the terms of the securities being offered. We may sell these securities to or through underwriters and also to other purchasers or through agents. We will set forth the names of any underwriters or agents, and any related fees, conversions, or discount arrangements, in the accompanying prospectus supplement. We may not sell any securities under this prospectus without delivery of the applicable prospectus supplement.

You should read this document and any prospectus supplement or amendment carefully before you invest in our securities.

The address of our principal executive offices is 6 Liberty Square, #2382, Boston, Massachusetts 02109.

Our common stock is listed on the Nasdaq Capital Market under the symbol “RNAZ.” Based on the last reported sale price of our common stock of \$1.23 per share, as reported on the Nasdaq Capital Market on October 18, 2022, the aggregate market value of our public float, calculated according to General Instruction I.B.6. of Form S-3, is \$10,663,844.16 based on 12,977,234 shares of our common stock outstanding as of October 18, 2022, of which 8,669,792 shares of our common stock are held by non-affiliates. We have not offered any securities pursuant to General Instruction I.B.6. of Form S-3 during the prior 12 calendar month period that ends on, and includes, the date of this prospectus.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “Risk Factors” contained in this prospectus beginning on page 3 and any applicable prospectus supplement, and under similar headings in the other documents that are incorporated by reference into this prospectus.

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

The date of this Prospectus is December 16, 2022.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement, as amended, that we filed with the U.S. Securities and Exchange Commission, or SEC, under the Securities Act of 1933, as amended, or Securities Act.

Under this shelf registration process, we may offer the securities described in this prospectus from time to time in one or more offerings for an aggregate offering amount of up to \$150,000,000, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities.

Registration of the securities covered by this prospectus does not mean that these securities will necessarily be offered or sold. As of the date of filing of this registration statement, we have no specific plans for selling the securities registered hereunder.

A prospectus supplement may include a discussion of risks or other special considerations applicable to us or the offered securities. A prospectus supplement or any free writing prospectus may also add, update or change information in this prospectus. **If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you must rely on the information in the prospectus supplement.** Please carefully read both this prospectus, including the information incorporated by reference into this prospectus, and the applicable prospectus supplement or any free writing prospectus together with additional information described under the heading “Where You Can Find More Information.” This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.

The registration statement containing this prospectus, including exhibits to the registration statement, provides additional information about us and the securities offered under this prospectus. The registration statement can be read at the SEC website mentioned under the heading “Where You Can Find More Information.”

We may sell the securities directly or to or through underwriters, dealers or agents. We and our underwriters or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters or agents, we will include in the applicable prospectus supplement:

- the names of those underwriters or agents;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

We have not authorized any broker-dealer, salesperson or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and the accompanying supplement to this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying supplement to this prospectus and any free writing prospectus do not constitute an offer to sell or the solicitation of an offer to buy securities, nor do this prospectus and the accompanying supplement to this prospectus and any free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation. The information contained in this prospectus and the accompanying prospectus supplement and any free writing prospectus speaks only as of their respective dates and may not reflect subsequent changes in our business, financial condition, results of operations and business prospects even though this prospectus and any accompanying prospectus supplement and any free writing prospectus is delivered or securities are sold on a later date.

Unless the context otherwise indicates, references in this prospectus, and any accompanying prospectus, to “TransCode,” “we,” “our,” “us” and the “Company” refer, collectively, to TransCode Therapeutics, Inc.

TRADEMARKS, SERVICE MARKS AND TRADE NAMES

We own, have applied for or have rights to use one or more registered and common law trademarks, service marks and/or trade names in connection with our business in the United States and/or in certain foreign jurisdictions.

This prospectus and the documents incorporated herein by reference may contain trademarks, service marks and trade names of third parties which are the property of their respective owners. Our use or display of third parties' trademarks, service marks, trade names or products in this prospectus, any applicable prospectus supplement and our other public filings is not intended to, and does not imply a relationship with, or endorsement or sponsorship by us. Solely for convenience, the trademarks, service marks, logos and trade names referred to in this prospectus, any applicable prospectus supplement and the documents incorporated herein by reference may appear without the ®, TM or SM symbols, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable owner of or licensor to these trademarks, service marks and trade names.

This prospectus contains additional trademarks, service marks and trade names of others, which are the property of their respective owners. All trademarks, service marks and trade names appearing in this prospectus are, to our knowledge, the property of their respective owners. We do not intend our use or display of other companies' trademarks, service marks, copyrights or trade names to imply a relationship with, or endorsement or sponsorship of us by, any other company.

On October 20, 2021, TransCode Therapeutics, Inc. applied to the United States Commissioner of Trademarks to register TRANSCODE THERAPEUTICS as a trademark under International Class 005, pharmaceutical preparations for the treatment of cancer, diagnostic preparations for medical purposes, having Serial Number 97/083236. For the purpose of this prospectus, TransCode Therapeutics® is referred to as TransCode.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks described in the documents incorporated by reference in this prospectus and any prospectus supplement, as well as other information we include or incorporate by reference into this prospectus, any applicable prospectus supplement and any applicable prospectus supplement, before making an investment decision. Our business, financial condition, results of operations or business prospects could be materially adversely affected by the materialization or realization of any of these risks as well as other risks about which we are not aware or which we do not presently deem material. The trading price of our securities could decline due to the materialization or realization of any of these risks, and you may lose all or part of your investment. This prospectus, any applicable prospectus supplement and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Actual results could differ materially from those anticipated in or by these forward-looking statements as a result of certain factors, including the risks described herein or in the documents incorporated herein by reference, including (i) our [Annual Report on Form 10-K for the fiscal year ended December 31, 2021](#), which is on file with the SEC and is incorporated herein by reference, as updated by our subsequent annual, quarterly and other reports and documents that are incorporated by reference into this prospectus and (ii) other documents we file with the SEC that are deemed incorporated by reference into this prospectus.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any applicable prospectus supplement, any free writing prospectus and the documents incorporated by reference herein contain forward-looking statements within the meaning of the federal securities laws, Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, or Exchange Act. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 and are included in this prospectus, any applicable prospectus supplement, any free writing prospectus and the documents incorporated by reference herein for purposes of complying with those safe harbor provisions. Please see the Cautionary Statement Regarding Forward-Looking Statements in each document incorporated by reference for information about that filing's forward-looking statements. All statements other than statements of historical facts contained in this prospectus, any applicable prospectus supplement, any free writing prospectus and our other public filings are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "expects," "plans," "intends," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

- our estimates and expectations regarding our capital requirements, cash and expense levels, liquidity sources and our need for additional financing;
- whether we will authorize or issue any securities mentioned in this prospectus or the method of distribution on which we will rely during any such sale;
- whether any supplemental prospectus will be filed and whether such a prospectus will adequately specify the terms of securities being offered;
- whether any of the patent applications or trademark registrations that are currently pending will be issued;
- the development of our platforms commercially or otherwise or what they may be developed into in the future;
- the design, conduct and outcome of our planned preclinical activities to support an eIND for our planned Phase 0 trial of a radiolabeled version of TTX-MC138, our lead product candidate focused on metastatic cancer treatment, and our ability to initiate and complete this trial or Phase I/II clinical trials;
- our ability to expand our drug candidate portfolio through internal research and development or the acquisition or in-licensing of intellectual property assets;
- the impact of the global COVID-19 coronavirus pandemic, including the spread of new strains of the virus, on our activities as described herein and otherwise, including but not limited to our ability to enroll a sufficient number of patients to complete the above-described clinical trial;
- the results and timing of preclinical and clinical trial activities;
- the therapeutic benefits, effectiveness and safety of our product candidates;
- our ability to receive regulatory approval for our product candidates in the United States, Europe and other geographies;
- predictions about how any of our product candidates will behave or their effects in clinical trials or in humans;
- our ability to receive regulatory approval for our product candidates in the United States, Europe and other geographies;
- the expected regulatory approval pathway for our product candidates, and our ability to obtain, on satisfactory terms or at all, the financing required to support operations, research, development, clinical trials and commercialization of products;
- our reliance on third parties for the planning, conduct and monitoring of clinical trials, for the manufacture of clinical drug supplies and drug product, and for other requirements;

- our estimates of the size and characteristics of the markets that may be addressed by our product candidates, if approved;
- our ability to utilize our proprietary technological approach to develop and commercialize our product candidates;
- our ability to attract, retain and motivate key personnel;
- how we intend to use the net proceeds;
- whether the potential of RNA in oncology can be realized and whether the Company is able to address challenges related to RNA therapeutics;
- whether we will successfully and timely furnish information requested of us and whether it will remain available through our website at all times;
- whether any of the securities we offer will have the terms specified in this prospectus;
- the regulatory or legal codes that do or may apply to us, our securities or our securityholders now or in the future;
- whether we will engage underwriters, brokers or other professionals to sell our securities;
- our ability to generate revenue and become profitable; and
- other forward-looking statements, including those listed under the caption “Cautionary Statement Regarding Forward-Looking Statements” in our [Annual Report on Form 10-K for the fiscal year ended December 31, 2021](#), and our other filings with the SEC incorporated herein by reference.

The factors that could cause actual results to differ materially from our expectations, assumptions and beliefs include, but are not limited to the following:

- the conduct and outcome of our Phase 0 clinical trial of a radiolabeled version of TTX-MC138, our lead therapeutic candidate focused on metastatic cancer treatment, and our ability to initiate and complete this trial;
- our ability to expand our therapeutic candidate portfolio through internal research and development or the acquisition or in-licensing of intellectual property assets;
- the impact of the global outbreak of the COVID-19 coronavirus, including the spread of new strains of the virus, on our activities as described above and otherwise, including but not limited to our ability to enroll a sufficient number of patients to advance the above-described clinical trial;
- the results and timing of our preclinical and clinical trial activities;
- the therapeutic benefits, effectiveness and safety of our therapeutic candidates;
- our ability to receive regulatory approval for our therapeutic candidates in the United States, Europe and other geographies;
- the expected regulatory approval pathway for our therapeutic candidates, and our ability to obtain, on satisfactory terms or at all, the financing required to support operations, research, development, clinical trials, and commercialization of products;
- our reliance on third-parties for the planning, conduct and monitoring of clinical trials, for the manufacture of clinical drug supplies and drug product, and for other requirements;
- potential changes in regulatory requirements, and delays or negative outcomes from the regulatory approval process;
- our estimates of the size and characteristics of the markets that may be addressed by our therapeutic candidates;
- market acceptance of our therapeutic candidates that are approved for marketing in the United States or other countries;
- our ability to successfully commercialize our therapeutic candidates;

- the safety and efficacy of therapeutics marketed by our competitors that are targeted to indications which our therapeutic candidates have been developed to treat;
- the impact of natural disasters, global pandemics (including further outbreaks of existing strains of COVID-19 or new variants of the virus), labor disputes, lack of raw materials or other supplies, issues with facilities and equipment or other forms of disruption to business operations at our manufacturing or laboratory facilities or those of our vendors;
- our ability to utilize our proprietary technological approach to develop and commercialize our therapeutic candidates;
- potential collaborators to license and commercialize any therapeutic candidates for which we receive regulatory approval in the future in or outside of the United States;
- our heavy dependence on licensed intellectual property, including our ability to source and maintain licenses from third-party owners;
- our ability to protect our intellectual property and operate our business without infringing the intellectual property rights of others;
- our ability to attract, retain and motivate key personnel;
- our ability to generate revenue and become profitable; and
- other risks and uncertainties, including those listed under the caption “Risk Factors” in our Annual Report on Form 10-K and in our other regulatory filings.

Other sections of this prospectus and the documents incorporated by reference in this prospectus may include additional factors that could adversely affect our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for management to predict all risk factors, nor can we assess the impact of all risk factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in or implied by any forward-looking statements. Forward-looking statements contained in, implied by or incorporated by reference into this prospectus reflect our current views with respect to future events and with respect to our business and future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those described under “Risk Factors” and elsewhere in this prospectus and the documents incorporated by reference. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

THE COMPANY

TransCode is an RNA oncology company created on the belief that cancer can be defeated through the intelligent design and effective delivery of RNA therapeutics. For decades, ribonucleic acid, or RNA, has been a topic of investigation by the scientific community as a potentially attractive therapeutic modality because it can target any gene and it lends itself to rational and straightforward drug design. RNA-based therapeutics are highly selective to their targets, potentially making available a broad array of previously undruggable targets in the human genome.

TransCode has created a design engine to customize the development of RNA therapeutics that is modular, both at the levels of the core nanoparticle and therapeutic loading. The size, charge, and surface chemistry of the core iron oxide nanoparticle can be tuned to optimize the particles for the intended genetic target and therapeutic load. The therapeutic load, consisting of synthetic oligonucleotides, can also be adapted to the specific approach being developed. The approach can range from RNA interference, RNAi, including small interfering RNAs, antisense oligonucleotides, and non-coding RNA mimics to mRNA — based cancer vaccines and CRISPR — based gene repair and replacement platforms as well as Pattern Recognition Receptors such as retinoic acid inducible gene, or RIG-I. The platform can further be used for developing RNA-targeted radiolabeled therapeutics and diagnostics and other custom products targeting known and novel biomarkers and other genetic elements as they are discovered and validated. The TTX platform is intended to overcome delivery issues of stability, efficiency, and immunogenicity faced by existing lipid and liposomal nanoparticle platforms while optimizing targeting of and accumulation in tumor cells and metastatic sites.

The ability to deliver RNA therapeutics inside tumors and metastases gives us the potential to target genes of importance for cancer treatment that have remained undruggable up until now using an RNA approach.

Our lead therapeutic candidate, TTX-MC138, targets microRNA-10b, or miRNA-10b, a master regulator of metastatic cell viability in a range of cancers, including breast, pancreatic, ovarian, colon cancer, glioblastomas, and several others. In November 2022, TransCode submitted to the U.S. Food and Drug Administration, or FDA, an exploratory investigational new drug application, or eIND, to conduct a Phase 0 clinical trial intended to demonstrate quantitative delivery of TTX-MC138 to metastatic lesions in subjects with advanced solid tumors. We also intend to complete investigational new drug enabling studies, or IND-enabling studies, for TTX-MC138 in support of our planned IND application for a Phase I/II clinical trial with TTX-MC138.

Our other preclinical programs include two solid tumor programs, TTX-siPDL1, an siRNA — based modulator of programmed death-ligand 1, or PD-L1, and TTX-siLIN28B, an siRNA-based inhibitor of RNA-binding protein LIN28B. TransCode also has three cancer agnostic programs, TTX-RIGA, an RNA — based agonist of the retinoic acid-inducible gene I, or RIG-I, targeting activation of innate immunity in the tumor microenvironment; TTX-CRISPR, a CRISPR/Cas9-based therapy platform for the repair or elimination of cancer-causing genes inside tumor cells; and TTX-mRNA, an mRNA-based platform for the development of cancer vaccines designed to activate cytotoxic immune responses against tumor cells.

Corporate Information

We were incorporated in the State of Delaware in January 2016. Our principal corporate address is 6 Liberty Square, #2382, Boston, Massachusetts 02109; our telephone number is (857) 837-3099. Our website is www.transcodetherapeutics.com. Information contained in, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus. Our design logo and our other registered and common law trade names, trademarks and service marks are the property of TransCode.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities offered under this prospectus primarily for product development activities, including one or more clinical trials with TTX-MC138, our lead therapeutic candidate, further research and development of our other product candidates, and for other general corporate purposes (unless otherwise indicated in the applicable prospectus supplement), including, but not limited to, potential strategic acquisitions of complementary businesses, services or technologies, expansion of our technology infrastructure and capabilities, working capital, capital expenditures and the associated costs of operating as a public company.

We may temporarily invest the net proceeds in a variety of capital preservation instruments, including investment grade, interest-bearing instruments and U.S. government securities, or we will hold the proceeds in interest-bearing or non-interest-bearing accounts in U.S. banks, until they are used for the above purposes. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

SECURITIES WE MAY OFFER

This prospectus contains summary descriptions of the securities we may offer from time to time. These summary descriptions are not meant to be complete descriptions of each security. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities described herein, we will provide prospective investors with a supplement to this prospectus that will contain specific information about the terms of that offering, including the specific amounts, prices and terms of the securities offered.

We may sell the securities to or through underwriters, registered broker-dealers or selling agents, directly to purchasers or through a combination of any of these methods of sale or as otherwise set forth below under “Plan of Distribution.” We, as well as any agents acting on our behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Any prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, the Amended and Restated Certificate of Incorporation of TransCode Therapeutics, Inc. (the “Certificate of Incorporation”) and the Amended and Restated Bylaws of TransCode Therapeutics, Inc. (the “Bylaws”), which are exhibits to the registration statement of which this prospectus forms a part, and by applicable law. The terms of our common stock and preferred stock may also be affected by Delaware law.

Authorized Capital Stock

Our authorized capital stock consists of 290 million shares of common stock, par value \$0.0001 per share, and 10 million shares of preferred stock, par value \$0.0001 per share, all of which shares of preferred stock are undesignated.

As of September 30, 2022, 12,977,234 shares of our common stock were outstanding and held by approximately 21 stockholders of record.

Common Stock

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of our stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Listing

Our common stock is traded on the Nasdaq Capital Market under the trading symbol “RNAZ.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Vstock Transfer, LLC.

Preferred Stock

Our board of directors has the authority, without further action by our stockholders, to issue up to 10 million shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments if we liquidate. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our Company or other corporate action. As of September 30, 2022, no shares of preferred stock were outstanding.

Series of Preferred Stock

We will incorporate by reference as an exhibit to the registration statement, which includes this prospectus, the form of any certificate of designation that describes the terms of any series of preferred stock we are offering. This description and the applicable prospectus supplement will include:

- the title and stated value;
- the number of shares authorized;
- the liquidation preference per share;
- the purchase price;
- the dividend rate, period and payment date, and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange, market or trading system;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price, or how it will be calculated, and the conversion period;
- whether the preferred stock will be exchangeable into any of our other securities, debt or otherwise, and, if applicable, the exchange price, or how it will be calculated, and the exchange period;
- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with that series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

When we issue shares of preferred stock under this prospectus, the shares will be fully paid and nonassessable and will not have, or be subject to, any preemptive or similar rights.

Anti-Takeover Effects of our Certificate of Incorporation and Bylaws and Delaware Law

Our Certificate of Incorporation and Bylaws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include those described below.

Board Composition and Filling Vacancies

Our Certificate of Incorporation provides that directors may be removed only for cause and then only by the affirmative vote of the holders of at least two-thirds of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The limitations on removal of directors and

treatment of vacancies has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No Written Consent of Stockholders

Our Certificate of Incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our Bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of Stockholders

Our Certificate of Incorporation and Bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at that special meeting of stockholders. Our Bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters brought before the meeting in conformance with our Bylaws.

Advance Notice Requirements

Our Bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be considered. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our Bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and Bylaws

Any amendment of our Certificate of Incorporation must first be approved by a majority of our board of directors, and if required by law or our Certificate of Incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, and limitation of liability must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class. Our Bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the Bylaws; and may also be amended by the affirmative vote of a majority of the outstanding shares entitled to vote on the amendment, voting together as a single class, except that the amendment of the provisions relating to notice of stockholder business and nominations and special meetings must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated Preferred Stock

Our Certificate of Incorporation provides for 10 million authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our Certificate of Incorporation grants our board of directors broad

power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Choice of forum

Pursuant to our Bylaws, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers, employees or agents to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our Certificate of Incorporation and our Bylaws, (iv) any action to interpret, apply, enforce or determine the validity of our Certificate of Incorporation or Bylaws or (v) any action asserting a claim that is governed by the internal affairs doctrine, in each case subject to the Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein, or the Delaware Forum Provision. The Delaware Forum Provision will not apply to any causes of action arising under the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Unless we consent in writing to the selection of an alternate forum, the United States District Court for the District of Massachusetts shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, or the Federal Forum Provision, as the address of our principal executive offices is in Boston, Massachusetts. These Forum Provisions may impose additional costs on stockholders, may limit our stockholders' ability to bring a claim in a forum they find favorable, and the designated courts may reach different judgments or results than other courts. In addition, there is uncertainty as to whether the Federal Forum Provision will be enforced, which may impose additional costs on us and stockholders.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became an interested stockholder, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became an interested stockholder, the business combination was approved by our board of directors and authorized at an annual or special meeting of our stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving 10% or more of the assets of the corporation and the interested stockholder;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by that entity or person.

DESCRIPTION OF DEBT SECURITIES

We may offer debt securities which may be senior or subordinated. We refer to senior debt securities and subordinated debt securities collectively as debt securities. Each series of debt securities may have different terms. The following description summarizes the general terms and provisions of the debt securities. We will describe the specific terms of the debt securities and the extent, if any, to which the general provisions summarized below apply to any series of debt securities in the prospectus supplement relating to the series and any applicable free writing prospectus that we authorize to be delivered.

We may issue senior debt securities from time to time, in one or more series under a senior indenture to be entered into between us and a senior trustee to be named in a prospectus supplement, which we refer to as the senior trustee. We may issue subordinated debt securities from time to time, in one or more series, under a subordinated indenture to be entered into between us and a subordinated trustee to be named in a prospectus supplement, which we refer to as the subordinated trustee. The forms of senior indenture and subordinated indenture are filed as exhibits to the registration statement of which this prospectus forms a part. Together, the senior indenture and the subordinated indenture are referred to as the indentures and, together, the senior trustee and the subordinated trustee are referred to as the trustees. This prospectus briefly outlines some of the provisions of the indentures. The following summary of the material provisions of the indentures is qualified in its entirety by the provisions of the indentures, including definitions of certain terms used in the indentures. Wherever we refer to particular sections or defined terms of the indentures, those sections or defined terms are incorporated by reference in this prospectus or the applicable prospectus supplement. You should review the indentures that are filed as exhibits to the registration statement of which this prospectus forms a part for additional information. As used in this prospectus, the term “debt securities” includes the debt securities being offered by this prospectus and all other debt securities issued by us under the indentures.

General

The indentures:

- do not limit the amount of debt securities that we may issue;
- allow us to issue debt securities in one or more series;
- do not require us to issue all of the debt securities of a series at the same time; and
- allow us to reopen a series to issue additional debt securities without the consent of the holders of the debt securities of such series.

Unless otherwise provided in the applicable prospectus supplement, the senior debt securities will be unsubordinated obligations and will rank equally with all of our other unsecured and unsubordinated indebtedness. Payments on the subordinated debt securities may be subordinated to the prior payment in full of all of our senior indebtedness, as described under — “Subordination” and in the applicable prospectus supplement.

Each indenture provides that we may, but need not, designate more than one trustee under an indenture. Any trustee under an indenture may resign or be removed and a successor trustee may be appointed to act with respect to the series of debt securities administered by the resigning or removed trustee. If two or more persons are acting as trustee with respect to different series of debt securities, each trustee shall be a trustee of a trust under the applicable indenture separate and apart from the trust administered by any other trustee. Except as otherwise indicated in this prospectus, any action described in this prospectus to be taken by each trustee may be taken by each trustee with respect to, and only with respect to, the one or more series of debt securities for which it is trustee under the applicable indenture.

The prospectus supplement for each offering will provide the following terms, where applicable:

- the title of the debt securities and whether they are senior or subordinated;
- any limit upon the aggregate principal amount of the debt securities of that series;
- the date or dates on which the principal of the debt securities of the series is payable;

- the price at which the debt securities will be issued, expressed as a percentage of the principal and, if other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof;
- the rate or rates at which the debt securities of the series shall bear interest or the manner of calculation of such rate or rates, if any;
- the date or dates from which interest will accrue, the interest payment dates on which such interest will be payable or the manner of determination of such interest payment dates, the place(s) of payment, and the record date for the determination of holders to whom interest is payable on any such interest payment dates or the manner of determination of such record dates;
- the right, if any, to extend the interest payment periods and the duration of such extension;
- the period or periods within which the price or prices at which, and the terms and conditions upon which, debt securities of the series may be redeemed, converted or exchanged, in whole or in part;
- our obligation, if any, to redeem or purchase debt securities of the series pursuant to any sinking fund, mandatory redemption, or analogous provisions (including payments made in cash in satisfaction of future sinking fund obligations) or at the option of a holder thereof and the period or periods within which the price or prices at which, and the terms and conditions upon which, debt securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;
- the form of the debt securities of the series including the form of the certificate of authentication for such series;
- if other than minimum denominations of one thousand U.S. dollars (\$1,000) or any integral multiple of \$1,000 thereof, the denominations in which the debt securities of the series shall be issuable;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global debt security or global debt securities; the terms and conditions, if any, upon which such global debt security or global debt securities may be exchanged in whole or in part for other individual debt securities; and the depository for such global debt security or global debt securities;
- whether the debt securities will be convertible into or exchangeable for common stock or other securities of ours or any other Person and, if so, the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, and the applicable conversion or exchange period;
- any additional or alternative events of default to those set forth in the indenture;
- any additional or alternative covenants to those set forth in the indenture;
- the currency or currencies including composite currencies, in which payment of the principal of (and premium, if any) and interest, if any, on such debt securities shall be payable (if other than in currency of the United States of America), which unless otherwise specified shall be the currency of the United States of America as at the time of payment is legal tender for payment of public or private debts;
- if the principal of (and premium, if any), or interest, if any, on such debt securities is to be payable, at our election or at the election of any holder thereof, in a coin or currency other than that in which such debt securities are stated to be payable, then the period or periods within which, and the terms and conditions upon which, such election may be made;
- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any, and principal amounts of the debt securities of the series to any holder that is not a "United States person" for U.S. federal tax purposes;
- provisions, if any, related to defeasance and discharge of the offered debt securities in addition to or alternate than those set forth in the indenture;

- the applicability of any guarantees;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other terms of the debt securities (which may supplement, modify or delete any provision of the indenture insofar as it applies to such series).

We may issue debt securities that provide for less than the entire principal amount thereof to be payable upon declaration of acceleration of the maturity of the debt securities. We refer to any such debt securities throughout this prospectus as “original issue discount securities.”

We will provide you with more information in the applicable prospectus supplement regarding any deletions, modifications, or additions to the events of default or covenants that are described below, including any addition of a covenant or other provision providing event risk or similar protection.

Payment

Unless otherwise provided in the applicable prospectus supplement, the principal of, and any premium or make-whole amount and interest on, any series of the debt securities will be payable by mailing a check to the address of the person entitled to it as it appears in the applicable register for the debt securities or by wire transfer of funds to that person at an account maintained within the United States.

All monies that we pay to a paying agent or a trustee for the payment of the principal of, and any premium or interest on, any debt security will be repaid to us if unclaimed at the end of two years after the obligation underlying payment becomes due and payable. After funds have been returned to us, the holder of the debt security may look only to us for payment, without payment of interest for the period in which we hold the funds.

Merger, Consolidation or Sale of Assets

The indentures provide that we may, without the consent of the holders of any outstanding debt securities, (i) consolidate with, (ii) sell, lease or convey all or substantially all of our assets to, or (iii) merge with or into, any other entity provided that:

- either we are the continuing entity, or the successor entity, if other than us, assumes the obligations (a) to pay the principal of, and any premium and interest on, all of the debt securities and (b) to duly perform and observe all of the covenants and conditions contained in the applicable indenture; and in the event the debt securities are convertible into or exchangeable for common stock or other securities of ours, such successor entity will, by the applicable supplemental indenture, make provision so that the holders of debt securities of that series shall thereafter be entitled to receive upon conversion or exchange of such debt securities the number of securities or property to which a holder of the number of shares of common stock or other securities of ours deliverable upon conversion or exchange of those debt securities would have been entitled had such conversion or exchange occurred immediately prior to such consolidation, merger, sale, conveyance, transfer or other disposition; and
- an officers’ certificate and legal opinion covering such conditions are delivered to each applicable trustee.

Events of Default, Notice and Waiver

Unless the applicable prospectus supplement states otherwise, when we refer to “events of default” as defined in the indentures with respect to any series of debt securities, we mean:

- default in the payment of any installment of interest on any debt security of such series continuing for 90 days unless such date has been extended or deferred;
- default in the payment of principal of, or any premium on, any debt security of such series when due and payable unless such date has been extended or deferred;
- default in the performance or breach of any covenant or warranty in the debt securities or in the indenture by us continuing for 90 days after written notice described below;

- bankruptcy, insolvency or reorganization, or court appointment of a receiver, liquidator or trustee of us; and
- any other event of default provided with respect to a particular series of debt securities.

If an event of default (other than an event of default described in the fourth bullet point immediately above) occurs and is continuing with respect to debt securities of any series outstanding, then the applicable trustee or the holders of 25% or more in principal amount of the debt securities of that series will have the right to declare the principal amount of, and accrued interest on, all the debt securities of that series to be due and payable. If an event of default described in the fourth bullet point above occurs, the principal amount of, and accrued interest on, all the debt securities of that series will automatically become and will be immediately due and payable without any declaration or other act on the part of the trustee or the holders of the debt securities. However, at any time after such a declaration of acceleration has been made, but before a judgment or decree for payment of the money due has been obtained by the applicable trustee, the holders of at least a majority in principal amount of outstanding debt securities of such series or of all debt securities then outstanding under the applicable indenture may rescind and annul such declaration and its consequences if:

- we have deposited with the applicable trustee all required payments of the principal, any premium, interest and, to the extent permitted by law, interest on any overdue installment of interest, plus applicable fees, expenses, disbursements and advances made by the applicable trustee; and
- all events of default, other than the non-payment of accelerated principal, or a specified portion thereof, and any premium, have been cured or waived.

The indentures provide that holders of debt securities of any series may not institute any proceedings, judicial or otherwise, with respect to such indenture or for any remedy under the indenture, unless the trustee fails to act for a period of 90 days after the trustee has received a written request to institute proceedings in respect of an event of default from the holders of 25% or more in principal amount of the outstanding debt securities of such series, as well as an offer of indemnity reasonably satisfactory to the trustee. However, this provision will not prevent any holder of debt securities from instituting suit for the enforcement of payment of the principal of, and any premium and interest on, such debt securities at the respective due dates thereof.

The indentures provide that, subject to provisions in each indenture relating to its duties in the case of a default, a trustee has no obligation to exercise any of its rights or powers at the request or direction of any holders of any series of debt securities then outstanding under the indenture, unless the holders have offered to the trustee reasonable security or indemnity. The holders of at least a majority in principal amount of the outstanding debt securities of any series or of all debt securities then outstanding under any indenture shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the applicable trustee, or of exercising any trust or power conferred upon such trustee. However, a trustee may refuse to follow any direction which:

- is in conflict with any law or the applicable indenture;
- may involve the trustee in personal liability; or
- may be unduly prejudicial to the holders of debt securities of the series not joining the proceeding.

Within 120 days after the close of each fiscal year, we will be required to deliver to each trustee a certificate, signed by one of our several specified officers, stating whether or not that officer has knowledge of any default under the applicable indenture. If the officer has knowledge of any default, the notice must specify the nature and status of the default.

Modification of the Indentures

Subject to certain exceptions, the indentures may be amended with the consent of the holders of a majority in aggregate principal amount of the outstanding debt securities of all series affected by such amendment (including consents obtained in connection with a tender offer or exchange for the debt securities of such series).

We and the applicable trustee may make modifications and amendments of an indenture without the consent of any holder of debt securities for any of the following purposes:

- to cure any ambiguity, defect, or inconsistency in the applicable indenture or in the Securities of any series;
- to comply with the covenant described above under “— Merger, Consolidation or Sale of Assets”;
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add events of default for the benefit of the holders of all or any series of debt securities;
- to add the covenants, restrictions, conditions or provisions relating to us for the benefit of the holders of all or any series of debt securities (and if such covenants, restrictions, conditions or provisions are to be for the benefit of less than all series of debt securities, stating that such covenants, restrictions, conditions or provisions are expressly being included solely for the benefit of such series), to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default, or to surrender any right or power in the applicable indenture conferred upon us;
- to add to, delete from, or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication, and delivery of debt securities, as set forth in the applicable indenture;
- to make any change that does not adversely affect the rights of any holder of notes under the applicable indenture in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided in the applicable indenture, to establish the form of any certifications required to be furnished pursuant to the terms of the applicable indenture or any series of debt securities under the applicable indenture, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under the applicable indenture by a successor trustee or to appoint a separate trustee with respect to any series;
- to comply with any requirements of the SEC or any successor in connection with the qualification of the indenture under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act; or
- to conform the applicable indenture to this “— Description of Debt Securities” or any other similarly titled section in any prospectus supplement or other offering document relating to a series of debt securities.

Subordination

Payment by us of the principal of, premium, if any, and interest on any series of subordinated debt securities issued under the subordinated indenture will be subordinated to the extent set forth in an indenture supplemental to the subordinated indenture relating to such series.

Discharge, Defeasance and Covenant Defeasance

Unless otherwise provided in the applicable prospectus supplement, the indentures allow us to discharge our obligations to holders of any series of debt securities issued under any indenture when:

- either (i) all securities of such series have already been delivered to the applicable trustee for cancellation; or (ii) all securities of such series have not already been delivered to the applicable trustee for cancellation but (a) have become due and payable, (b) will become due and payable within one year, or (c) if redeemable at our option, are to be redeemed within one year, and we have irrevocably deposited with the applicable trustee, in trust, funds in such currency or currencies, or governmental obligations in an amount sufficient to pay the entire indebtedness on such debt securities in respect of principal and any premium, and interest to the date of such deposit if such debt securities have become due and payable or, if they have not, to the stated maturity or redemption date;

- we have paid or caused to be paid all other sums payable.

Unless otherwise provided in the applicable prospectus supplement, the indentures provide that, upon our irrevocable deposit with the applicable trustee, in trust, of an amount, in such currency or currencies in which such debt securities are payable at stated maturity, or government obligations, or both, applicable to such debt securities, which through the scheduled payment of principal and interest in accordance with their terms will provide money in an amount sufficient to pay the principal of, and any premium or make-whole amount, and interest on, such debt securities, and any mandatory sinking fund or analogous payments thereon, on the scheduled due dates therefor, the issuing company shall be released from its obligations with respect to such debt securities under the applicable indenture or, if provided in the applicable prospectus supplement, its obligations with respect to any other covenant, and any noncompliance with such obligations shall not constitute an event of default with respect to such debt securities.

The applicable prospectus supplement may further describe the provisions, if any, permitting such defeasance or covenant defeasance, including any modifications to the provisions described above, with respect to the debt securities of or within a particular series.

Conversion Rights

The terms and conditions, if any, upon which the debt securities are convertible into common stock or other securities of ours will be set forth in the applicable prospectus supplement. The terms will include whether the debt securities are convertible into shares of common stock or other securities of ours, the conversion price, or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at the issuing company's option or the option of the holders, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption of the debt securities and any restrictions on conversion.

Governing Law

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

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to this registration statement which includes this prospectus.

General

We may issue warrants providing for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities.

We may evidence each series of warrants by warrant certificates that we may issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency which may be used to purchase the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the periods during which, and places at which, the warrants are exercisable;
- the manner of exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- United States federal income tax consequences of holding or exercising the warrants;
- the amount of warrants outstanding;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

DESCRIPTION OF UNITS

We may issue units comprising shares of common stock, shares of preferred stock, debt securities and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement. If so described in a particular supplement, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to this registration statement which includes this prospectus.

Each unit that we may issue will be issued so that the holder of the unit is also the holder of each security comprising the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities comprising the unit may not be held or transferred separately, at any time or at any time before a specified date. The applicable prospectus supplement may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and of the securities comprising the units.

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

Issuance in Series

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series of units will be described in the applicable prospectus supplement.

Unit Agreements

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement.

The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement:

Modification without Consent

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder:

- to cure any ambiguity, including modifying any provisions of the governing unit agreement that differ from those described below;
- to correct or supplement any defective or inconsistent provision; or
- to make any other change that we believe is necessary or desirable and that will not adversely affect the interests of the affected holders in any material respect.

We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of holders of the unaffected unit; we need only obtain any required approvals from holders of the affected units.

Modification with Consent

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would:

- impair any right of the holder to exercise or enforce any right under a security comprising the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or
- reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval:

- If the change affects only the units of a particular series issued under that agreement, the change must be approved by holders of a majority of the outstanding units of that series; or
- If the change affects the units of more than one series issued under that agreement, it must be approved by holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement as the governing document.

In each case, the required approval must be given by written consent.

Unit Agreements Will Not Be Qualified under Trust Indenture Act

No unit agreement will be qualified as an indenture, and no unit agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of units issued under unit agreements will not have the protections of the Trust Indenture Act with respect to their units.

Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

Governing Law

The unit agreements and the units will be governed by Delaware law.

Form, Exchange and Transfer

Unless the accompanying prospectus supplement states otherwise, we will issue each unit in global — i.e., book-entry — form only. Units in book-entry form will be represented by a global security registered in the name of a depository, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participation in the depository's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depository and its participants. We will describe book-entry securities and other terms regarding the issuance and registration of the units in the applicable prospectus supplement.

Unless the accompanying prospectus supplement states otherwise, each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them.

The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount of units in that series is not changed.

- Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.
- Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder's proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.
- If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise this right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise of this right and ending on the day of that mailing, in order to freeze the list of holders in preparation of the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement.

Only the depository will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

Payments and Notices

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement.

PLAN OF DISTRIBUTION

We may sell the securities offered through this prospectus and any accompanying prospectus supplement, if required, in any of the following ways:

- through underwriters;
- through dealers;
- through agents;
- directly to purchasers; or
- through a combination of any of these methods or any other method permitted by law.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. In the prospectus supplement relating to such offering, we will name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay to any such agent. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

The distribution of the securities may be effected from time to time in one or more transactions:

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

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of any agent or underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which we seek to list the securities.

If any underwriters or agents are used in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement, sales agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

In connection with the offering of securities, we may grant to the underwriters an option to purchase additional securities with additional underwriting commissions thereon as may be set forth in the accompanying prospectus supplement. If we grant any such option, the terms of such option will be set forth in the prospectus supplement for such securities.

If a dealer is used in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, who would be acting as principal for their own account. The dealer, who may

be deemed to be an “underwriter” as that term is defined in the Securities Act, may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and others, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Offered securities may also be offered and sold, if so indicated in the prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreement, if any, with us and its compensation will be described in the applicable prospectus supplement. Remarketing firms may be deemed to be underwriters in connection with their remarketing of offered securities.

Certain agents, underwriters and dealers, and their associates and affiliates, may have borrowing relationships with, engage in other transactions with, or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overalloc in connection with the offering, creating a short position for their own accounts. In addition, to cover overallocments or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions.

If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so sold, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for the securities may be more than two business days after the trade date. Accordingly, in such a case, if a holder wishes to trade its securities on any date prior to the second business day before the original issue date for such securities, such holder will be required, by virtue of the fact that the securities initially are expected to settle in more than two business days after the trade date for the securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities or that they will be accepted for listing on any securities exchange.

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

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

The anticipated date of delivery of offered securities will be set forth in the applicable prospectus supplement relating to each offer.

LEGAL MATTERS

Certain legal matters in connection with this offering will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Any underwriters will also be advised about the validity of the securities and other legal matters by their own counsel, which will be named in the applicable prospectus supplement.

EXPERTS

Our financial statements as of and for the years ended December 31, 2021 and 2020, in our [Annual Report on Form 10-K](#) have been audited by WithumSmith+Brown, PC, independent registered public accounting firm, and included in such Annual Report and incorporated by reference herein in reliance upon the report (which report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern) upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information requirements of the Exchange Act and, in accordance therewith, file annual, quarterly and special reports, proxy statements and other information with the SEC. These documents also may be accessed through the SEC's electronic data gathering, analysis and retrieval system, or EDGAR, via electronic means, including the SEC's home page on the internet (www.sec.gov). You may also inspect the registration statement and this prospectus on this SEC website.

We have the authority to designate and issue more than one class or series of stock having various preferences, conversion and other rights, voting powers, restrictions, limitations as to dividends, qualifications, and terms and conditions of redemption. We will furnish a full statement of the relative rights and preferences of each class or series of our stock which has been so designated and any restrictions on the ownership or transfer of our stock to any shareholder upon request and without charge. Written requests for such copies should be directed to our Investor Relations Department, TransCode Therapeutics, Inc., 6 Liberty Square, #2382, Boston, Massachusetts 02109. Our website is located at <https://www.transcodetherapeutics.com/>. Information contained on our website is not incorporated by reference into this prospectus, and, except for the documents incorporated by reference as noted below, you should not consider any information on, or that can be accessed from, our website as part of this prospectus or any accompanying prospectus supplement.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus, and information that we file after the date hereof with the SEC will automatically update and supersede the information already incorporated by reference. We are incorporating by reference the documents listed below, which we have already filed with the SEC, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any future report or document that is not deemed filed under such provisions, after the date of this prospectus and prior to the termination of this offering:

- [our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on March 31, 2022;](#)
- [our Definitive Proxy Statement on Schedule 14A \(other than information furnished rather than filed\), filed with the SEC on May 2, 2022;](#)
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2022, June 30, 2022, and September 30, 2022, filed with the SEC on [May 16, 2022](#), [August 15, 2022](#), and [November 14, 2022](#), respectively;
- our Current Reports on Form 8-K filed with the SEC on [June 23, 2022](#), [August 3, 2022](#), [November 30, 2022](#), and [December 9, 2022](#); and

- [the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on April 26, 2021](#), as supplemented by the description of our common stock contained in [Exhibit 4.1](#) to our [Annual Report on Form 10-K for the year ended December 31, 2021](#), filed with the SEC on March 31, 2022, and any amendment or report filed with the SEC for the purpose of updating such description.

Pursuant to Rule 412 under the Securities Act, any statement contained in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

Upon request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, a copy of the documents incorporated by reference into this prospectus but not delivered with the prospectus. You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost, by writing to us at the following address: Investor Relations Department, TransCode Therapeutics, Inc., 6 Liberty Square, #2382, Boston, Massachusetts 02109. These filings may also be obtained through our website located at <https://www.transcodetherapeutics.com/>. The reference to our website is intended to be an inactive textual reference and, except for the documents incorporated by reference as noted above, the information on, or accessible through, our website is not intended to be part of this prospectus.

You should rely only on the information incorporated by reference or provided in this prospectus and the applicable accompanying prospectus supplement. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus or those documents.

We advise that there have been no material changes in our affairs that have occurred since the end of the latest fiscal period for which audited financial statements were included in our latest Form 10-K that have not been described in a Form 10-Q or Form 8-K filed subsequently under the Exchange Act.

Up to \$1,081,307 of Shares of Common Stock

T R A N S C O D E

T H E R A P E U T I C S TM

TransCode Therapeutics, Inc.

PROSPECTUS SUPPLEMENT

April 13, 2023
