The information in this preliminary prospectus supplement and the accompanying base prospectus is not complete and may be changed. A registration statement relating to these securities has been filed with the Securities and Exchange Commission and is effective. This preliminary prospectus supplement and the accompanying base prospectus are not an offer to sell these securities, and are not soliciting an offer to buy these securities, in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS SUPPLEMENT
(to Prospectus dated November 21, 2022)

Filed Pursuant to Rule 424(b)(5)
File No. 333-268302

RENOVO | RX

Shares of Common Stock
Pre-Funded Warrants to Purchase Shares of Common Stock

We are offering shares ("Shares") of our common stock, par value $0.0001 per share, pursuant to this prospectus supplement and the accompanying base prospectus. The public offering price for Shares of our common stock is $ per share.

We are also offering to each purchaser of shares that would otherwise result in the purchaser's beneficial ownership exceeding 4.99% of our outstanding common stock immediately following the consummation of this offering, the opportunity to purchase pre-funded warrants (the "Pre-Funded Warrants") in lieu of shares of common stock. Subject to limited exceptions, a holder of Pre-Funded Warrants will not have the right to exercise any portion of its Pre-Funded Warrants if the holder, together with its affiliates, would beneficially own in excess of 4.99% (or, at the election of the holder, such limit may be increased to up to 9.99%) of the number of shares of common stock outstanding immediately after giving effect to such exercise. Each Pre-Funded Warrant is exercisable for one share of our common stock. The purchase price of each Pre-Funded Warrant is equal to the price at which a share of common stock is sold in this offering, minus $0.0001, and the exercise price of each Pre-Funded Warrant is $0.0001 per share. The Pre-Funded Warrants will be immediately exercisable and may be exercised at any time until all of the Pre-Funded Warrants are exercised in full. The Pre-Funded Warrants and the shares of common stock issuable upon the exercise thereof are being registered on the registration statement of which this prospectus supplement is a part.

The aggregate market value of our outstanding shares of common stock held by non-affiliates was $36,322,196 based on 24,041,442 shares of common stock outstanding as of January 21, 2025, of which 23,585,842 shares are held by non-affiliates, and a per share price of $1.54 based on the closing sale price of our common stock on January 21, 2025. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below $75.0 million. During the 12-month period prior to and including the date of this prospectus supplement, we did not offer any securities pursuant to General Instruction I.B.6 of Form S-3.

Our common stock is listed on The Nasdaq Capital Market under the symbol "RNXT." On February 5, 2025, the last reported sales price of our common stock on The Nasdaq Capital Market was $1.49 per share. There is no established trading market for the Pre-Funded Warrants, and we do not expect a trading market to develop. We do not intend to list the Pre-Funded Warrants on any securities exchange or nationally recognized trading system. Without a trading market, the liquidity of the Pre-Funded Warrants will be extremely limited.

	Per Share	Per Pre-Funded Warrant	Total
Public offering price	$	$	$
Underwriting discounts and commissions[1][2]	$	$	$
Proceeds to us, before expenses	$	$	$

(1) We have agreed to pay the underwriter a commission equal to 7.0% of the aggregate gross proceeds from the sale of the securities in this offering. Additionally, we have agreed to pay a non-accountable expense allowance equal to 0.5% of the gross proceeds from the sale of the securities in this offering and to reimburse the underwriter for certain expenses in connection with this offering. We have also agreed to issue the underwriter at the closing of this offering a warrant to purchase the number of shares of common stock equal to 5% of the aggregate number of shares of common stock and Pre-Funded Warrants sold in this offering. See "*Underwriting*" on page S-16 of this prospectus supplement for additional disclosures regarding underwriting compensation and estimated offering expenses.

The purchase of the securities offered through this prospectus supplement is speculative and involves a high degree of risk. You should consider carefully the risk factors beginning on page S-9 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement before purchasing any of the securities offered by this prospectus.

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

The underwriter expects to deliver the securities against payment on or about February , 2025.

Sole Bookrunner

Titan Partners Group
a division of American Capital Partners

The date of this prospectus supplement is February , 2025

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PROSPECTUS SUPPLEMENT

PROSPECTUS DATED NOVEMBER 21, 2022

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is part of a registration statement that we filed with the Securities and Exchange Commission (the "SEC") utilizing a "shelf" registration process. Under this shelf registration statement process, we may from time to time offer to sell up to $50,000,000 of our common stock, preferred stock, debt securities, purchase contracts, units or any combination of these securities in one or more transactions.

We provide information to you about this offering in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying base prospectus dated November 21, 2022, which is included in our registration statement on Form S-3 (File No. 333-268302) (the "registration statement"), which provides general information regarding our shares of common stock, shares of preferred stock, debt securities, purchase contracts, units, or any combination of these securities and other information some of which may not apply to this offering. If information in this prospectus supplement is inconsistent with the accompanying base prospectus, you should rely on 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 this prospectus supplement, the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

You should read this prospectus supplement, together with the accompanying base prospectus, the documents incorporated by reference in this prospectus supplement and the base prospectus and any free writing prospectus that we have authorized for use in connection with this offering before making an investment decision. You should also read and consider the information in the documents referred to in the sections of this prospectus supplement and the accompanying base prospectus entitled "*Where You Can Find More Information*" and "*Incorporation of Certain Information by Reference.*" When we refer to this "prospectus," we are referring to both this prospectus supplement and the base prospectus combined.

You should rely only on the information contained or incorporated by reference in this prospectus supplement, the base prospectus, or in any free writing prospectus that we have authorized for use in connection with this offering. We and the underwriter have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it.

This prospectus supplement contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated herein by reference as exhibits to the registration statement, and you may obtain copies of those documents as described below under the section entitled "*Where You Can Find More Information.*"

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

We are not making an offer to sell the securities covered by this prospectus supplement in any jurisdiction in which an offer or solicitation is not permitted or in which the person making the offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation.

The information appearing in this prospectus supplement, the documents incorporated by reference in this prospectus supplement, the base prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering is accurate only as of its respective date, regardless of the time of delivery of the respective document or of any sale of securities covered by this prospectus supplement. You should not assume that the information contained in or incorporated by reference in this prospectus supplement, the base prospectus, or in any free writing prospectus that we have authorized for use in connection with this offering, is accurate as of any date other than the respective dates thereof.

We own or have rights to use a number of 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. Solely for convenience, the trademarks, service marks, logos and trade names referred to in this prospectus supplement are without the ® and ™ symbols, but such references are 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 licensors to these trademarks, service marks and trade names. This prospectus supplement 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 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 companies. We have trademarks for the names RENOVORX, RENOVOCATH, RENOVOTAMP and DELIVERING THERAPY WHERE IT MATTERS. We have trademarks pending for TAMP and RENOVOGEM. In this prospectus supplement, except as otherwise indicated, "RenovoRx," the "Company," "we," "our," and "us" refer to RenovoRx, Inc., a Delaware corporation, and its subsidiaries.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the information incorporated by reference herein contain forward-looking statements. All statements other than statements of historical facts contained in this prospectus supplement and the information incorporated by reference herein, including statements regarding our future results of operations and financial position, business strategy, product candidates, planned preclinical studies and clinical trials, results of clinical trials, research and development costs, regulatory approvals, timing and likelihood of success, as well as plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that are in some cases beyond our control and may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "would," "expect," "plan," "anticipate," "could," "intend," "target," "project," "believe," "estimate," "predict," "potential," or "continue" or the negative of these terms or other similar expressions. Forward-looking statements contained in this prospectus supplement and the documents incorporated by reference herein include, but are not limited to, statements about:

- the sufficiency of our existing cash, cash equivalents, and investments to fund our future operating expenses and capital expenditure requirements and our ability to operate as a going concern;
- our estimates regarding expenses, future revenue, anticipated capital requirements to fund our future operating expenses, and our need for additional financing;
- our financial performance;
- our anticipated use of our existing cash, cash equivalents, and investments;
- our ability to market and sell our FDA-cleared catheter drug-delivery device, RenovoCath®, on a standalone basis;
- the ability of our clinical trials to demonstrate safety and efficacy of our product candidates and other positive results;
- the progress and focus of our current and future clinical trials and the timing of reporting of data from those trials;
- our continued reliance on third parties to conduct clinical trials of our product candidates and for the manufacture of our product candidates;
- the beneficial characteristics, safety, efficacy, and therapeutic effects of our product candidates;
- our ability to advance product candidates into and successfully complete clinical trials;
- our ability to further develop and expand our therapy platform, both to use different chemotherapeutic agents, to include new indications;
- enrollment timing and projections for our clinical trials and our expectations relating to the timing of the provision of updates on, data readouts for, and completion of our clinical trials;
- our ability to obtain and maintain regulatory approval of our product candidates and the timing or likelihood of regulatory filings and approvals, including our expectation to seek special designations, such as orphan drug designation, for our product candidates for various diseases;
- existing regulations and regulatory developments in the United States and other jurisdictions;

- our plans relating to commercializing our product candidates, if approved, including the geographic areas of focus and our potential and ability to successfully commercialize our product candidates and generate revenue;
- the implementation of our strategic plans for our business and product candidates;
- the expected potential benefits of strategic collaborations with third parties and our ability to attract collaborators with relevant and complementary expertise;
- our estimates of the number of patients in the United States who suffer from the diseases we target;
- our estimates of potential market opportunities and our ability to successfully realize these opportunities;
- the success of competing therapies that are or may become available;
- developments relating to our competitors and our industry, including competing product candidates and therapies;
- our plans relating to the further development and manufacturing of our product candidates, including for additional indications which we may pursue;
- our plans and ability to obtain or protect intellectual property rights, including extensions of existing patent terms where available;
- the scope of protection we are able to establish and maintain for intellectual property rights, including our therapy platform and product candidates;
- our ability to successfully negotiate and enter into agreements with distribution, strategic and corporate partners;
- our potential and ability to successfully manufacture and supply our product candidates for clinical trials and for commercial use, if approved;
- our ability to retain the continued service of our key personnel and to identify, hire, and then retain additional qualified personnel;
- our ability to maintain compliance with the continuing listing requirements of The Nasdaq Stock Market LLC ("Nasdaq"); and
- our expectations regarding the impact of major domestic and geopolitical events on our business.

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements speak only as of the date of this prospectus supplement and are subject to a number of risks, uncertainties and

assumptions described in the section titled "*Risk Factors*" and elsewhere in this prospectus supplement, each accompanying prospectus supplement, and the information incorporated by reference herein and therein. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein until after we distribute this prospectus supplement, whether as a result of any new information, future events or otherwise.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus supplement, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely upon these statements.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement. This summary is not complete and does not contain all of the information that you should consider before making an investment decision. You should read this entire prospectus supplement and the accompanying base prospectus carefully, including the risk factors contained in this prospectus supplement, the accompanying base prospectus, our most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q, and the financial statements and related notes thereto and other information incorporated by reference into this prospectus supplement and in the accompanying base prospectus.

Overview

We are a life sciences company developing novel targeted oncology therapies and offering **RenovoCath®**, a novel, U.S. Food and Drug Administration ("FDA")-cleared local drug-delivery system, targeting high unmet medical needs.

Based on organic demand from doctors in the field who have become familiar with our technology, we launched an effort to commercialize our RenovoCath delivery system as a stand-alone device within its FDA cleared uses during 2024. As described further below under "Commercialization of RenovoCath," this effort has already begun to achieve positive results, as we expanded our relationship with our U.S.-based third-party RenovoCath manufacturer and received our first commercial orders for RenovoCath devices in December 2024. We anticipate generating initial revenues from our RenovoCath commercialization efforts in 2025 with an anticipated increase in revenue during year. Based on our internal analyses, we believe that the initial clinical interest in RenovoCath could represent an estimated $400 million peak annual U.S. sales opportunity.

Our patented **Trans-Arterial Micro-Perfusion (TAMP™)** therapy platform is designed to ensure precise therapeutic delivery across the arterial wall near the tumor site to bathe the target tumor, while potentially minimizing a therapy's toxicities versus systemic intravenous therapy utilizing the RenovoCath delivery system. Our novel approach to targeted treatment offers the potential for increased safety, tolerance, and improved efficacy, and our mission is to transform the lives of cancer patients by providing innovative solutions to enable targeted delivery of diagnostic and therapeutic agents. RenovoCath is indicated for temporary vessel occlusion in applications including arteriography, preoperative occlusion, and chemotherapeutic drug infusion.

In parallel to the RenovoCath commercialization efforts, we are completing enrollment in an ongoing Phase III randomized multi-center clinical trial (called TIGeR-PaC) to investigate our lead product candidate, a novel oncology drug-device combination product, for the treatment of locally advanced pancreatic cancer ("LAPC"). This trial is being conducted under a U.S. Investigational New Drug ("IND") application that is regulated by the FDA's 21 CFR 312 pathway. Our lead product candidate utilizes RenovoCath with the existing chemotherapy gemcitabine and received Orphan Drug Designation for pancreatic cancer and bile duct cancer, which provides 7 years of market exclusivity upon approval by the FDA. We may also evaluate RenovoCath with gemcitabine and other agents as potential therapies in other indications.

Intra-arterial Infusion of Gemcitabine with RenovoCath: Clinical Process to Date

Systemic intravenous (or IV) gemcitabine and nab-paclitaxel chemotherapy is currently the standard of care for pancreatic cancer treatment. However, systemic chemotherapy is well known to cause debilitating side effects for patients. Unlike other tumors with extensive blood supply, pancreatic tumors have poor blood supply so systemic chemotherapy may not adequately reach the tumor. Thus, the standard of care may be less effective in treating this type of cancer because the blood vessels are critical for transporting systemic administration of chemotherapy to the tumor.

We have completed earlier clinical studies and observational registry studies for RenovoCath with gemcitabine, with 20 and 25 patients respectively, in LAPC. In the 35 pooled patients evaluable in these two studies, 9 patients pretreated with radiation followed by treatment with RenovoCath with gemcitabine experienced a median Overall Survival ("OS") of 27.1 months. Based on previous large randomized clinical trials, the expected survival of LAPC patients is 12.0 to 18.8 months in patients receiving only IV systemic chemotherapy or IV chemotherapy plus radiation (which are both considered standard of care). Unlike the randomized trials that established these standard of care results, our prior clinical studies did not prospectively control the standard of care therapy received prior to administration of RenovoCath with gemcitabine. Based on FDA safety review of our prior clinical studies, the FDA allowed us to proceed to evaluate RenovoCath with gemcitabine within our Phase III TIGeR-PaC clinical trial.

Our ongoing Phase III TIGeR-PaC clinical trial is studying the intra-arterial administration of gemcitabine to treat LAPC following stereotactic body radiation therapy ("SBRT"). The study compares the treatment of LAPC using intra-arterial delivery of gemcitabine with RenovoCath versus systemic, standard of care, IV administration of gemcitabine and nab-paclitaxel. Our protocol for TIGeR-PaC involves systemic chemotherapy and SBRT during the induction phase of the study (prior to randomization). Patients receiving SBRT during the induction phase are required to complete 5 treatments, over 5 consecutive days, and do not receive oral chemotherapy versus previously utilized intensity-modulated radiation therapy ("IMRT") where patients must complete 25 radiation treatments in combination with oral chemotherapy during the induction phase of the study, which takes between 35 and 56 days to complete. In December 2021, we amended our protocol and statistical analysis plan for TIGeR-PaC (the "Modified SAP") to (i) enroll and analyze only patients receiving SBRT during the induction phase, (ii) include a second interim analysis, (iii) change the total number of patients randomized in the study to 114 with a total of 86 deaths from SBRT patients, and (iv) repower the study from 90% to 80%. The change to the 80% power calculation aligns with common practice for clinical trials and, we believe this design will shorten the timeframe needed to complete the study, as well as significantly decrease our costs. We have not discussed the protocol amendment or the Modified SAP with the FDA, and we cannot provide any assurance that the FDA will agree with these modifications, but these modifications have been submitted to the FDA.

The first interim analysis in the Phase III TIGeR-PaC study at the 26th event of the specified events (i.e., patient deaths), was completed in March 2023, with the Data Monitoring Committee recommending a continuation of the study. The interim analysis showed a 6-month median overall survival benefit for patients (nearly a 60%

improvement) versus the study control arm and current standard of care: IV administration of gemcitabine and nab-paclitaxel. Patients also had greater than 65% reduction in adverse events with RenovoCath with gemcitabine versus the standard of care.

During 2024, we announced that additional renowned clinical oncology sites are now participating in the TIGeR-PaC study with the goal of accelerating patient enrollment. The second interim analysis for this study will be triggered by the 52nd event, which is estimated to occur early 2025. The second interim data readout would follow thereafter, with the timing for such readout depending on customary factors such as time needed for analysis, although we are anticipating this to occur by the end of the first half of 2025. We are also aiming to complete patient enrollment in the TIGeR-PaC study in the first half of 2025.

Our TAMP Therapy Platform

Our patented TAMP therapy platform is focused on optimizing drug concentration in solid tumors by delivering oncology therapies with our RenovoCath delivery system. TAMP is designed to enable physicians to isolate segments of the vascular anatomy closest to tumors and ensure precise therapeutic delivery, while potentially minimizing a therapy's toxicities versus systemic intravenous therapy. Specifically, our patented approach enables physicians to pre-treat patients with standard-of-care radiation therapy and utilize our RenovoCath delivery system to use pressure to force chemotherapy across the arterial wall near the tumor site to bathe the target tumor.

We believe there are many advantages to our TAMP therapy platform, including:

- *Application of Approved Chemotherapeutic Agents*: Approved chemotherapeutic agents, with well-known safety and efficacy profiles have been used with our RenovoCath delivery system. These include small molecule chemotherapy agents, and based on more recent animal studies, we believe that larger molecule agents could be utilized as well.

- *Targeted Approach*: In a preclinical study using our therapy platform, we demonstrated up to 100 times higher local drug concentration compared to systemic chemotherapy. We believe our TAMP therapy platform allows for a targeted approach that can decrease systemic exposure and improve patient outcomes.

- *Delivery Method Independent of Tumor Vascularity* : Our therapy platform is designed to deliver chemotherapeutic agents to solid tumors resistant to systemic chemotherapy due to lack of tumor feeder blood vessels. If approved, our product candidates utilizing our FDA-cleared RenovoCath delivery system have the potential to treat tumors that are not directly supplied by large blood vessels.

- *Broad Application for Solid Tumor Indications*: Our therapy platform is not restricted to a single chemotherapeutic agent or solid tumor type. As such, it may be applied for use with additional therapeutic agents and/or in additional solid tumor indications, including in solid tumors with and without identifiable tumor feeder blood vessels.

- *Intellectual Property Protection*: Elements of our TAMP technology are covered by 8 issued and 6 pending U.S. patents, and 10 issued and 7 pending patents outside of the U.S., with current patent coverage expiring in the years 2030 to 2038. We continue to explore additional opportunities to further bolster our intellectual property position, and if granted, our current applications would provide patent protection through 2043.

We received our first FDA 510(k) clearance for RenovoCath in 2014, a second clearance to use the RenovoCath for infusion of chemotherapy agents in 2017, a further clearance to use RenovoCath with a power-injector in 2019, and a fourth clearance in 2021 to expand vessel diameter range to 3-11 mm, implement certain changes in the Instructions for Use, change the recommended saline to contrast solution ratio, among other changes and improvements.

We are also routinely in discussions regarding collaborations and potential out-licenses of our lead product candidate (RenovoCath with gemcitabine) as we prepare for the NDA filing (assuming we meet our study endpoints) as well as other collaborations with our TAMP platform.

For further information regarding our RenovoCath Instructions for Use ("IFU"), please see: IFU-10004-Rev.-F-Universal-IFU.pdf.

Commercialization of RenovoCath

In recent years, we have focused our efforts primarily on progressing RenovoCath with gemcitabine through our ongoing Phase III TIGeR-PaC study for LAPC. During this process, we have begun to explore other commercial opportunities for our TAMP therapy platform.

As a result of the introduction of our FDA-cleared RenovoCath delivery system as part of the TIGeR-PaC study and the resulting unsolicited (and subsequently solicited) feedback we have received from oncologists, surgeons, and interventional radiologists indicating increased demand for targeted delivery of diagnostic and/or therapeutic agents, during the first half of 2024, we began to actively explore a new opportunity to market and sell RenovoCath as a standalone device. We launched this effort with relatively little capital outlay, and in December 2024, we announced our receipt of our first commercial purchase orders for RenovoCath devices. Additionally, over ten medical institutions have initiated the process for RenovoCath purchase orders, and we are in discussions with more than twenty other institutions. Moreover, we believe the sixteen cancer centers using RenovoCath as part of the TIGeR-PaC trial could also be potential customers for RenovoCath after completion of TIGeR-PaC enrollment later this year. We expect to generate initial revenues from our RenovoCath commercial strategy in 2025, again with a relatively small, anticipated increase in our overhead or hiring.

During 2024, we began a process of increasing production of RenovoCath devices through our U.S.-based contract manufacturing organization (known as a CMO), Medical Murray Inc. of North Barrington, IL ("Medical Murray"). In September 2024, we announced the signing of a new project work order with Medical Murray (our US-based contract manufacturing organization (CMO)) for an expanded relationship to meet anticipated demand for both our clinical and commercialization efforts. To create performance incentives for Medical Murray, we issued a warrant to Medical Murray to purchase up to 709,500 shares of our common stock, which warrant vests and is only exercisable over time in tranches and if certain manufacturing milestones are achieved.

Beyond LAPC, we believe there are many clinical applications for RenovoCath to improve targeted delivery of diagnostic and therapeutic agents. This leads us to a business development opportunity that would also likely engage in post-market device "registry" clinical studies and investigator-initiated clinical studies of the RenovoCath delivery system to gather additional data to support both our clinical and commercial efforts. Securing the manufacturing capacity for this strategy with our CMO partner is a great first step. We are also in active discussions with many interested customers to purchase supplies of RenovoCath as well as potential distribution partners.

We believe our initial target and potentially expanded addressable markets for RenovoCath are promising based on the following assumptions: (i) pressure-mediated delivery catheters on market today, which are analogous to RenovoCath, have an average selling price of $6,000-$8,500 per unit; (ii) 6 to 12 or more patents per

year per hospitals who have already expressed clinical interest in RenovoCath and approximately 7,000 initial target patients at peak market penetration; and (iii) an average of at least 5 to 8 annual procedures per patient. In addition, we believe we can achieve deep market penetration with a small commercial team targeting the top 200 high volume treatment centers. Based on these assumptions, we believe that our initial target market could eventually generate approximately $400 million in peak annual U.S. sales of RenovoCath as a standalone device. Moreover, expansion opportunities across indications could create a several billion dollar total addressable market potential for RenovoCath over time.

We plan on penetrating this market through expanding our relationships with the 200 high volume cancer treatment centers noted above as well as networking with surgical oncologists, medical oncologists, and interventional radiologists generally. While we are currently engaging in this activity on our own, we may explore working in tandem with a medical device commercial partner. Importantly, there is a current Centers for Medicare and Medicaid Services reimbursement code covering specialty pressure-mediated delivery catheters like RenovoCath, which creates incentives for hospitals to adopt more expensive technology,

RenovoCath Advantages

We believe that RenovoCath offers particular advantages versus the standard of care of IV systemic chemotherapy to both oncology patients and physicians which offers us potential competitive advantages.

RenovoCath Patient Experience

- 20-minute infusion; approximately 90-minute outpatient procedure (shorter for subsequent procedures); 8 treatments over 4-months (2 monthly hospital visits)
- Patients not put under general anesthesia (only conscious sedation for comfort)
- More time at home with family

Other Patient Experience

- Traditional systemic chemotherapy gemcitabine / Abraxane: 12 hospital/clinic visits over 4-month period plus overnight stays
- Patients put under general anesthesia
- Less time at home with family
- Systemic chemo associated with days of lasting side effects

RenovoCath Physician Experience

- Easy to learn and quick procedure for interventional radiologists / oncologists
- Transferrable techniques utilized in liver directed therapies resulting in fast learning curve for physicians
- Physicians demonstrate expertise after 2-3 proctored procedures and are able to train their colleagues

Other Physician Experience

- Majority of novel interventional technologies require large sales/physician proctor effort with training courses and/or on-site support for every procedure

Corporate Information

We were incorporated in the State of Delaware on December 17, 2012. Our principal executive offices are located at 2570 W. El Camino Real, Ste. 320, Mountain View, CA 94040. Our telephone number is (650) 284-4433. Our website address is https://renovorx.com. Information contained in our website does not constitute any part of, and is not incorporated into, this prospectus supplement.

THE OFFERING

Common stock offered:	shares of our common stock.
Pre-Funded Warrants offered:	We are also offering, in lieu of shares of common stock, Pre-Funded Warrants to purchase up to shares of common stock to any purchasers whose purchase of shares of common stock in this offering would otherwise result in such investor, together with its affiliates and related parties, beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering. The purchase price of each Pre-Funded Warrant is equal to the price at which the share of common stock is being sold in this offering, minus $0.0001, and the exercise price of each Pre-Funded Warrant is $0.0001 per share. The Pre-Funded Warrants will be exercisable immediately and may be exercised at any time until all of the Pre-Funded Warrants are exercised in full. The Pre-Funded Warrants and the shares of common stock issuable upon the exercise thereof are being registered on the registration statement of which this prospectus supplement is a part.
Offering price per share of common stock:	$ per share
Common stock to be outstanding after the offering:	shares (excluding shares issuable upon the exercise of the Pre-Funded Warrants and the underwriter warrants).
Use of Proceeds:	We intend to use the net proceeds from this offering for working capital and general corporate purposes, including continued progression of our Phase III TIGeR-PaC study and the continued development and execution of commercial sales and marketing activities for RenovoCath as a standalone device.
Underwriter Warrants:	Upon the closing of this offering, we have agreed to issue to the underwriter, or its respective designees, warrants to purchase a number of shares of common stock ("underwriter warrants") equal to an aggregate of 5% of the total number of shares of common stock and Pre-Funded Warrants sold in this offering as partial compensation for the underwriter's services in connection with this offering. The underwriter warrants will be exercisable at a per share exercise price equal to 115% of the offering price of the shares of common stock sold in this offering, or $ per share. The underwriter warrants are exercisable commencing six (6) months after the date of this prospectus supplement, and will be exercisable for a period of five (5) years from the date of issuance. See "*Underwriting — Underwriter Warrants*" on page S-16 of this prospectus supplement.

Listing and Symbols:	Our common stock is listed on The Nasdaq Capital Market under the symbol "RNXT." There is no established trading market for the Pre-Funded Warrants, and we do not expect a trading market to develop. We do not intend to list the Pre-Funded Warrants on any securities exchange or nationally recognized trading system. Without a trading market, the liquidity of the Pre-Funded Warrants will be extremely limited.
Risk Factors:	***Investing in our securities is speculative and involves a high degree of risk***. You should read the "*Risk Factors*" section of this prospectus supplement and in the documents incorporated by reference in this prospectus supplement for a discussion of factors to consider before deciding to purchase our securities.

The number of shares of our common stock to be outstanding after this offering is based on 24,001,339 shares of our common stock outstanding as of September 30, 2024, and excludes as of such date:

- 2,723,629 shares reserved for issuance upon the exercise of outstanding stock options and restricted stock units at a weighted average exercise price of $1.93 per share;
- 24,900,678 shares reserved for issuance upon the exercise of outstanding warrants at a weighted average exercise price of $2.35 per share;
- 430,707 shares of common stock reserved for future issuance under our 2021 Omnibus Equity Incentive Plan; and
- shares of common stock issuable upon exercise of the underwriter warrants to be issued to the underwriter upon the closing of this offering.

Except as otherwise indicated, all information in this prospectus supplement assumes (i) no exercise or conversion of the outstanding options or warrants described above and (ii) no exercise of the underwriter warrants to be issued to the underwriter in this offering.

RISK FACTORS

Investing in our securities is speculative and involves a high degree of risk In addition to the risks and investment considerations discussed elsewhere in this prospectus supplement or any document incorporated by reference herein, the following factors should be carefully considered by anyone purchasing the securities offered by this prospectus supplement. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations. We also update risk factors from time to time in our periodic reports on Forms 10-K, 10-Q and 8-K which will be incorporated by reference in this prospectus supplement. See "*Where You Can Find More Information*" and "*Incorporation of Certain Information by Reference*." If any of the following risks actually occur, our business could be harmed. In such case, the trading price of our common stock could decline and investors could lose all or a part of their investment. This prospectus supplement also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks we face as described below and elsewhere in this prospectus supplement. See "*Cautionary Note Regarding Forward Looking Statements.*"

Updated Risks Relating to Our Business

We are developing and executing on a commercial strategy for selling our RenovoCath device on a standalone basis, which is a new activity for our company and subject to significant inherent risks.

Alongside our Phase III clinical activities related to novel oncology drug-device combination product, in 2024 we commenced efforts to commercialize our FDA-approved RenovoCath device on a standalone basis. To date we have focused almost exclusively on the clinical development of our lead product candidate. Therefore, as a company, we have no experience in self-commercializing medical devices. This commercial strategy, which itself is new and subject to evolution and change, is subject to significant inherent risks relating to, among other matters, our manufacturing, supply chain, and sales and marketing efforts for RenovoCath, as well as our internal accounting and operational requirements for these efforts. Moreover, the past experiences of certain members of our management with commercializing medical devices may not translate to our plans for RenovoCath. Also, we may be subject to competition from alternative devices or methods of drug administration offered by larger, better funded, and more experienced companies. Therefore, we are and will continue to be faced with the risk that we may be unable to adequately execute one or more elements of our commercial plans for RenovoCath.

We may also choose to enter into a commercial collaboration with a third party who could take some or even primary responsibility for sales, marketing, and/or distribution efforts for RenovoCath. In such a case, we would be reliant, at least in part, on such third party for the success of our commercial efforts, and the failure of any such third party to execute the agreed upon strategy could lead to suboptimal results for our company. Moreover, in any such collaboration, we would be required to share the part of the economics of RenovoCath commercialization with such third-party, which could mean less revenue generated by our company.

Regardless of which commercial strategy, or combination of strategies, we choose to employ for RenovoCath, we will be required to execute our commercialization plan effectively and efficiently. If we are unable to do so in any material respect, and if, as a result, we are unable to generate meaningful or anticipated revenues from RenovoCath sales, this could cause a material adverse effect on our results of operations, cash flow, reputation, and stock price.

Our estimates of total addressable market, potential revenues and similar metrics related to our commercialization efforts for RenovoCath may prove inaccurate, particularly given that our commercialization efforts are relatively new and are evolving.

We have based our estimates of total addressable market size, peak annual sales projections and similar matters in this prospectus supplement based on our market research, third party reports and publicly available information which we consider reliable. However, our commercialization efforts for RenovoCath are relatively new and evolving. Therefore, readers are cautioned that our projected sales and similar metrics are merely our current, preliminary estimates and are subject to change based on many factors, including factors which are out of our control. As such, no assurances are given that any such estimates will prove to be accurate.

We will need to raise substantial additional capital to both develop and commercialize our novel oncology drug-device combination product (assuming FDA approval) and to separately engage in sales and marketing activities for RenovoCath as a standalone device. Our failure to obtain funding when needed (even following this offering) may force us to delay, reduce or eliminate our product development programs, commercial efforts or collaboration efforts. Moreover, if we do not obtain adequate and timely funding, we may not be able to continue as a going concern.

As of September 30, 2024, we had cash, cash equivalents and short-term marketable securities of approximately $9.6 million. Due to our recurring operating losses and the expectation that we will continue to incur net losses in the future, we will be required to raise substantial additional capital to both (i) complete the testing, development and (assuming FDA approval) commercialization of our novel oncology drug-device combination product or other product candidates and (ii) separately engage in sales and marketing activities for RenovoCath as a standalone device. We have historically financed our operations primarily through public and private sales of our equity or equity-

linked securities as well as debt financing. To raise additional capital, we may seek to sell additional equity and/or debt securities, obtain a credit facility or other loan or enter into collaborations, licenses or other similar arrangements, which we may not be able to do on favorable terms, or at all. For example, we have filed an omnibus shelf registration statement on Form S-3 (of which is prospectus supplement forms a part) that provides for aggregate offerings of up to $50.0 million of our securities subject to various limitations, including limited sales in any twelve-month period while we are subject to the "baby-shelf" rules. We also have filed a registration statement on Form S-1 to register the cash exercise of our outstanding warrants, with such cash exercise only expected to occur when the trading price of our common stock is in excess of the $10.80 per share exercise price of our outstanding warrants (which is significantly above our current stock price). Our ability to obtain additional financing will be subject to a number of factors, including market conditions, fluctuations in interest rates, our operating performance and investor sentiment. If we are unable to raise additional capital when required or on acceptable terms, we may have to significantly delay, scale back or discontinue our development and/or commercialization plans, restrict or cease our operations or obtain funds by entering into agreements on unfavorable terms. Failure to obtain additional capital on acceptable terms, or at all, would result in a material and adverse impact on our operations. As a result, there is substantial doubt about our ability to operate as a going concern.

Our financial statements as of September 30, 2024 have been prepared on a going concern basis and do not include any adjustments that may result from the outcome of this uncertainty. If we fail to raise additional working capital, or do so on commercially unfavorable terms, it would materially and adversely affect our business, prospects, financial condition and results of operations, and we may be unable to continue as a going concern. If we seek additional financing to fund our business activities in the future and there remains substantial doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding to us on commercially reasonable terms, if at all. If we are unable to continue as a going concern, we might have to liquidate our assets and the value we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements, and our shareholders may lose their entire investment in our common stock.

Risks Relating to this Offering

Our management has broad discretion as to the use of the net proceeds from this offering.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering, and these uses may vary from our current plans. Our management will have broad discretion in the application of the net proceeds, including for any of the purposes described in "*Use of Proceeds.*" Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds. Our management may spend a portion or all of the net proceeds from this offering in ways that holders of our common stock may not desire or that may not yield a significant return or any return at all. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may also invest the net proceeds from this offering in a manner that does not produce income or that loses value.

If you purchase the common stock being offered in this offering, you will experience immediate dilution as a result of this offering.

Since the price per share of our common stock and value of our Pre-Funded Warrants being offered are substantially higher than the net tangible book value per share of our common stock, you will suffer immediate and substantial dilution in the net tangible book value of the common stock you purchase in this offering. After giving effect to the sale by us of shares of our common stock at the offering price of $ per share of common stock and Pre-Funded Warrant (rounded for purposes of the Pre-Funded Warrants), if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of approximately $ per share in the net tangible book value of the common stock and Pre-Funded Warrant. The foregoing assumes that none of the Pre-Funded Warrants or underwriter warrants are exercised in this offering. Any exercise of outstanding stock options, warrants or other equity awards will result in further dilution. See the section entitled "*Dilution*" in this prospectus supplement for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock that could result in further dilution to the investor purchasing our common stock in this offering or result in downward pressure on the price of our common stock. We may sell shares of our common stock or other securities in any other offering at prices that are higher or lower than the prices paid by the investor in this offering, and the investor purchasing shares or other securities in the future could have rights superior to existing stockholders. Moreover, to the extent that we issue options or warrants to purchase, or securities convertible into or exchangeable for, shares of our common stock in the future and those options, warrants or other securities are exercised, converted or exchanged, stockholders may experience further dilution.

The trading price of our common stock has been, and is likely to continue to be, highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control.

Our stock price is volatile. During the period from January 1, 2024 to February 1, 2025, the closing price of our common stock ranged from a high of $1.98 per share to a low of $0.90 per share. The stock market in general and the market for smaller pharmaceutical and biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common stock at or above the public offering price and you may lose some or all of your investment.

There is no public market for the Pre-Funded Warrants being offered in this offering.

There is no public trading market for the Pre-Funded Warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the Pre-Funded Warrants on any securities exchange or nationally recognized trading system. Without an active market, the liquidity of the Pre-Funded Warrants will be limited.

Holders of Pre-Funded Warrants purchased in this offering will have no rights as holders of common stock until such holders exercise their Pre-Funded Warrants and acquire our common stock.

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

Significant holders or beneficial holders of shares of our common stock may not be permitted to exercise the Pre-Funded Warrants that they hold.

A holder (together with its affiliates and other attribution parties) may not exercise any portion of a Pre-Funded Warrant to the extent that immediately prior to or after giving effect to such exercise the holder would own more than 4.99% of our outstanding common stock immediately after exercise, which percentage may be changed at the holder's election to a higher or lower percentage not in excess of 9.99%. As a result, the holder may not be able to exercise its Pre-Funded Warrants for shares of our common stock at a time when it would be financially beneficial for the holder to do so. In such a circumstance, the holder could seek to sell its Pre-Funded Warrants to realize value, but the holder may be unable to do so in the absence of an established trading market and due to applicable transfer restrictions.

We will not receive any meaningful amount of additional funds upon the exercise of the Pre-Funded Warrants.

Each Pre-Funded Warrant may be exercised by way of a cashless exercise, meaning that the holder may not pay a cash purchase price upon exercise, but instead would receive upon such exercise the net number of shares of our common stock determined according to the formula set forth in the Pre-Funded Warrant. Accordingly, we may not

receive any additional funds upon the exercise of the Pre-Funded Warrants. Furthermore, even if exercised by means of cash payment of the exercise price, we will not receive any meaningful additional funds upon the exercise of the Pre-Funded Warrants.

USE OF PROCEEDS

We expect to receive net proceeds from this offering of approximately $ million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We plan to use such proceeds for working capital and general corporate purposes, including continued progression of our Phase III TIGeR-PaC study and the continued development and execution of commercial sales and marketing activities for RenovoCath as a standalone device.

We estimate that our current capital resources, along with the net proceeds from this offering, will be sufficient to fund our operating expenses and capital expenditure requirements through the first half of 2026. However, the net proceeds from this offering, together with our current cash, will likely not be sufficient for us to fully fund our activities to the point where we are cash flow positive from operations. As such, we will likely need to raise additional capital. At this time, we cannot predict with certainty the amount of capital needed, and thus we anticipate seeking additional capital in the future to fund such capital needs through further equity offerings and/or debt borrowings. We cannot guarantee that we will be able to raise additional capital on reasonable terms or at all.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. The amounts and timing of our actual expenditures will depend on numerous factors, including the status of our product development efforts, sales and marketing activities, technological advances, amount of cash generated or used by our operations and competition. Accordingly, our management will have broad discretion in the application of the net proceeds and investors will be relying on the judgment of our management regarding the application of the proceeds of this offering. Pending such use, we intend to invest the net proceeds in interest-bearing investment-grade securities or government securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of September 30, 2024:

- on an actual basis; and
- on an as adjusted basis to reflect the sale of shares of common stock and Pre-Funded Warrants (assuming full exercise thereof) in this offering at the public offering price of $ per share, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table along with our unaudited consolidated financial statements and related notes as of and for the nine-months ended September 30, 2024, as well as the other financial information incorporated by reference in this prospectus supplement and the accompanying base prospectus.

($ in thousands, except share amounts)	Actual	As Adjusted
Cash and cash equivalents	$ 9,563	$
Stockholders' equity:		
Convertible preferred stock, $0.0001 par value; 15,000,000 shares authorized, actual and as adjusted; no shares issued and outstanding, actual and as adjusted	-	
Common stock, $0.0001 par value, 250,000,000 shares authorized; 24,001,339 shares issued and outstanding, actual and shares issued and outstanding, as adjusted	2	
Additional paid-in capital	54,410	
Accumulated deficit	(47,341)	
Total stockholders' equity	$ 7,071	$

At September 30, 2024, the number of shares of common stock outstanding in the table above excludes:

- 2,723,629 shares reserved for issuance upon the exercise of outstanding stock options and restricted stock units at a weighted average exercise price of $1.93 per share;
- 24,900,678 shares reserved for issuance upon the exercise of outstanding warrants at a weighted average exercise price of $2.35 per share;
- 430,707 shares of common stock reserved for future issuance under our 2021 Omnibus Equity Incentive Plan; and
- shares of common stock issuable upon exercise of the underwriter warrants to be issued to the underwriter upon the closing of this offering.

Except as otherwise indicated, all information in this prospectus supplement assumes (i) no exercise or conversion of the outstanding options or warrants described above and (ii) no exercise of the underwriter warrants to be issued to the underwriter in this offering.

DILUTION

If you purchase securities in this offering, your interest will be immediately and substantially diluted to the extent of the difference between the offering price per share of our common stock in this offering and the as adjusted net tangible book value per share of our common stock after giving effect to this offering.

Our net tangible book value as of September 30, 2024 was approximately $7,071,000, or approximately $0.29 per share of common stock. After giving effect to the sale of shares (which assumes the exercise of all Pre-Funded Warrants sold in this offering and no exercise of the underwriter warrants) in this offering at the offering price of $ per share, and excluding the proceeds, if any, from the exercise of the underwriter warrants issued in this offering, and after deducting the underwriting

discounts and commissions and other estimated offering expenses payable by us, our as adjusted net tangible book value at September 30, 2024 would have been approximately $, or $ per share. This represents an immediate increase in net tangible book value of approximately $ per share to our existing stockholders, and an immediate dilution of $ per share to the investor purchasing shares in the offering.

Dilution in net tangible book value per share represents the difference between the amount per share paid by the investor of our common stock in this offering and the net tangible book value per share of our common stock immediately after this offering. The following table illustrates the per share dilution to the investor purchasing securities in the offering:

Public offering price per share		$
Net tangible book value per share as of September 30, 2024	$ 0.29	
Increase in net tangible book value per share attributable to this offering		
Adjusted net tangible book value per share after this offering		
Amount of dilution in net tangible book value per share to the new investor in this offering		$

The discussion and table above are based on 24,001,339 shares of our common stock outstanding as of September 30, 2024, and excludes:

- 2,723,629 shares reserved for issuance upon the exercise of outstanding stock options and restricted stock units at a weighted average exercise price of $1.93 per share;
- 24,900,678 shares reserved for issuance upon the exercise of outstanding warrants at a weighted average exercise price of $2.35 per share;
- 430,707 shares of common stock reserved for future issuance under our 2021 Omnibus Equity Incentive Plan; and
- shares of common stock issuable upon exercise of the underwriter warrants to be issued to the underwriter in this offering.

Except as otherwise indicated, all information in this prospectus supplement assumes no exercise or conversion of the outstanding options or warrants described above. To the extent that options or warrants outstanding as of September 30, 2024 have been or may be exercised, the investor purchasing our common stock in this offering may experience further 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 we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

DESCRIPTION OF SECURITIES WE ARE OFFERING

Common Stock

We are offering shares of our common stock in this offering. See "*Description of Securities*" and "*Description of Capital Stock*" in our base prospectus and "*Description of Securities*" filed as Exhibit 4.10 to our Annual Report on 10-K for more information regarding our shares of common stock.

Pre-Funded Warrants

The following summary of certain terms and provisions of the pre-funded warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrant, the form of which will be filed as an exhibit to a Current Report on Form 8-K in connection with this offering and incorporated by reference into the registration statement of which this prospectus supplement forms a part. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

Duration and exercise price. Each pre-funded warrant offered hereby will have an initial exercise price per share equal to $0.0001. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price.

Exercisability. The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of such holder's pre-funded warrant to the extent that the holder would own more than 4.99% of the outstanding shares of common stock immediately after exercise, except that upon at least 61 days' written prior notice from the holder to us, the holder may increase or decrease the amount of ownership of outstanding shares of common stock after exercising the holder's pre-funded warrants up to 9.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share.

Cashless exercise. In lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Fundamental transactions. In the event of any fundamental transaction, as described in the pre-funded warrants and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our shares of common stock, then upon any subsequent exercise of a pre-funded warrant, the holder will have the right to receive as alternative consideration, for each share of common stock that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of shares of common stock of the successor or acquiring corporation or of our company, if it is the surviving corporation, and any additional consideration receivable upon or as a result of such transaction by a holder of the number of shares of common stock for which the pre-funded warrant is exercisable immediately prior to such event.

Transferability. Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent. The pre-funded warrants will be held in definitive form by the warrant agent. The ownership of the pre-funded warrants and any transfers of the pre-funded warrants will be registered in a warrant register maintained by the warrant agent. We will initially act as warrant agent.

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

No rights as a stockholder. Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until such pre-funded warrants holders exercise their pre-funded warrants.

UNDERWRITING

We intend to enter into an underwriting agreement with Titan Partners Group LLC, a division of American Capital Partners, LLC, or the underwriter, with respect to the securities subject to this offering.

Subject to the terms and subject to the conditions contained in the underwriting agreement, we have agreed to sell to the underwriter named below, and each underwriter has agreed to purchase from us, the number of securities set forth opposite its name below at the public offering price per share of common stock, less the underwriting discounts set forth on the cover page of this prospectus supplement:

Underwriter	Number of Shares	Number of Pre-Funded Warrants
Titan Partners Group LLC, a division of American Capital Partners, LLC		
Total		

The underwriting agreement provides that the obligation of the underwriter to purchase the shares of common stock and Pre-Funded Warrants offered by this prospectus supplement and the accompanying prospectus is subject to certain conditions. The underwriter is obligated to purchase all of the shares of common stock and Pre-Funded Warrants offered hereby. The underwriting agreement also provides that if the underwriter defaults, the offering may be terminated. The underwriter is offering the securities, subject to prior sale, when, as and if issued to and accepted by it, subject to approval of legal matters by its counsel, and other conditions contained in the underwriting agreement, such as receipt by the underwriter of officers' certificates and legal opinions. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Discounts, Commissions and Expenses

The underwriter proposes to offer the shares of common stock and Pre-Funded Warrants purchased pursuant to the underwriting agreement to the public at the public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession of $ per share and Pre-Funded Warrant. After this offering, the public offering price and concession may be changed by the underwriter. No such change shall change the amount of proceeds to be received by us as set forth on the cover page of this prospectus supplement.

In connection with the sale of the common stock to be purchased by the underwriter, the underwriter will be deemed to have received compensation in the form of underwriting commissions and discounts. The underwriting commissions and discounts will be 7% of the gross proceeds of this offering, or $ per share of common stock and Pre-Funded Warrant based on the public offering price per share set forth on the cover page of this prospectus supplement.

We have also agreed to reimburse the underwriter at closing for reasonable, documented out-of-pocket expenses actually incurred by the underwriter, up to $125,000, including the fees and disbursements of the underwriter's legal counsel up to $100,000 on a non-accountable basis. Additionally, we have agreed to pay a non-accountable expense allowance equal to 0.5% of the gross proceeds from the sale of the securities in this offering before deducting the underwriting discount and commissions. We have also paid an advance of $15,000 to the underwriter, which will be applied against the accountable expenses that will be paid by us to the underwriter in connection with this offering. This payment will be returned to us to the extent not actually incurred by the underwriter in accordance with Rule 5110(g)(4)(A) of the Financial Industry Regulatory Authority("FINRA"). We estimate that our total offering expenses for this offering, net of the underwriting discounts and commissions, will be approximately $.

Underwriter Warrants

Upon the closing of this offering, we have agreed to issue to the underwriter, or its respective designees, warrants to purchase a number of shares of common stock ("underwriter warrants") equal to an aggregate of 5% of the total number of shares of common stock and Pre-Funded Warrants sold in this offering as partial compensation for the underwriter's services in connection with this offering. The underwriter warrants will be exercisable at a per share exercise price equal to 115% of the offering price of the shares of common stock sold in this offering, or $ per share. The underwriter warrants are exercisable commencing six (6) months after the date of this prospectus supplement and will be exercisable for a period of five years from the date of issuance.

The underwriter warrants and the shares of common stock underlying the underwriter warrants have been deemed compensation by FINRA and are therefore subject to a 180-day lock-up pursuant to Rule 5110(e)(1) of FINRA. Neither the underwriter nor its respective permitted assignees under such rule, may sell, transfer, assign, pledge, or hypothecate the underwriter warrants or the securities underlying the underwriter warrants, nor will the underwriter engage in any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the underwriter warrants or the underlying shares for a period of 180 days from the date of commencement of sales in this offering.

The following table shows the underwriting discounts and commissions payable to the underwriter by us in connection with this offering:

	Price Per Share	Price Per Pre-Funded Warrant	Total
Public offering price	$	$	$
Underwriting discounts and commissions[(1)]	$	$	$
Proceeds, before expenses, to us[(2)]	$	$	$

(1) The underwriting discount is 7% of the gross proceeds received from the sale of the securities in this offering.

Discretionary Accounts

The underwriter does not intend to confirm sales of the shares of common stock offered hereby to any accounts over which they have discretionary authority.

Indemnification

Pursuant to the underwriting agreement, we have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the underwriter or such other indemnified parties may be required to make in respect of those liabilities.

Lock-Up Agreements

Without the prior written consent of the underwriter, for a period of 45 days following the date of this prospectus supplement (the "Lock-Up Period"), we have agreed not to (i) issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of common stock or common stock equivalents without the prior written consent of the underwriter; (ii) file or caused to be filed any registration statement with the SEC relating to the offering of any shares of common stock or common stock

equivalents or any securities convertible into or exercisable or exchangeable for shares of common stock or common stock equivalents; (iii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of common stock or common stock equivalents, whether any such transaction described in clause (i), (ii), or (iii) above is to be settled by delivery of shares of common stock or common stock equivalents, in cash or otherwise.

In addition, each of our directors and officers has entered into a lock-up agreement with the underwriter. Under the lock-up agreements, without the prior written consent of the underwriter, the foregoing persons may not, directly or indirectly: (i) sell, assign, transfer, pledge, offer to sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option for sale (including any short sale), right or warrant to purchase, lend, establish an open "put equivalent position" (within the meaning of Rule 16a-1(h) under the Exchange Act), or otherwise dispose of, or enter into any transaction which is designed to or could be expected to result in the disposition of, any shares of common stock or securities convertible into or exercisable or exchangeable for any equity securities of the Company (including, without limitation, shares of common stock or any such securities which may be deemed to be beneficially owned by such persons in accordance with the rules and regulations promulgated by the SEC from time to time (such shares or securities, the "Beneficially Owned Shares")), or publicly announce any intention to do any of the foregoing, other than the exercise of options or warrants so long as there is no sale or disposition of the common stock underlying such options or warrants during the Lock-Up Period, (ii) enter into any swap, hedge or other agreement or arrangement that transfers in whole or in part, the economic risk of ownership of any Beneficially Owned Shares, common stock or securities convertible into or exercisable or exchangeable for any equity securities of the Company, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of shares of common stock or such other securities, in cash or otherwise, for a period of 60 days from the date of this prospectus supplement. This consent may be given at any time without public notice. These restrictions on future dispositions by our directors and executive officers are subject to certain exceptions for transfers of Beneficially Owned Shares, including, but not limited to, transfers (i) as a bona fide gift or gifts, (ii) to the immediate family of the transferor, (iii) to any trust for the direct or indirect benefit of such person or the immediate family of the transferor, (iv) to any beneficiary of the transferor pursuant to a will or other testamentary document or applicable laws of descent and (v) to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held by the transferor or the immediate family of the transferor.

Tail Financing

The underwriter shall be entitled to compensation calculated in the manner set forth herein with respect to any public or private offering or other financing or capital-raising transaction of any kind ("Tail Financing") to the extent that such financing or capital is provided to the Company by investors whom the underwriter contacted beginning January 6, 2025 and through the term of the Financing Engagement Agreement dated January 9, 2025 (the "Engagement Agreement") between the underwriter and the Company, if such Tail Financing is consummated at any time prior to the six (6) month anniversary of the later of (i) the closing of such offering or (ii) the expiration or termination of the Engagement Agreement

Electronic Distribution

This prospectus supplement and the accompanying prospectus may be made available in electronic format on websites or through other online services maintained by the underwriter or by its affiliates. In those cases, prospective investors may view offering terms online and prospective investors may be allowed to place orders online. Other than this prospectus supplement and the accompanying prospectus in electronic format, the information on the underwriter's websites or our website and any information contained in any other websites maintained by the underwriter or by us is not part of this prospectus supplement, the accompanying prospectus or the registration statement of which this prospectus supplement and the accompanying prospectus form a part, has not been approved and/or endorsed by us or the underwriter in its capacity as underwriter, and should not be relied upon by investors.

Passive Market Making

In connection with this offering, the underwriter and selling group members may also engage in passive market making transactions in our common stock. Passive market making consists of displaying bids limited by the prices of independent market makers and effecting purchases limited by those prices in response to order flow. Rule 103 of Regulation M promulgated by the SEC limits the amount of net purchases that each passive market maker may make and the displayed size of each bid. Passive market making may stabilize the market price of the shares of common stock at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Nasdaq Capital Market Listing

Our common stock is listed on The Nasdaq Capital Market under the symbol "RNXT." The last reported sale price of our common stock on February 5, 2025 was $1.49 per share. There is no established trading market for the Pre-Funded Warrants, and we do not expect a trading market to develop. We do not intend to list the Pre-Funded Warrants on any securities exchange or nationally recognized trading system. Without a trading market, the liquidity of the Pre-Funded Warrants will be extremely limited.

Price Stabilization, Short Positions and Penalty Bids

In connection with the offering, the underwriter may engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Regulation M under the Exchange Act:

- *Stabilizing transactions* permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- *Syndicate covering transactions* involve purchases of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions. A naked short position is more likely to be created if the underwriter is concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.
- *Penalty bids* permit the underwriter to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of the common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be discontinued at any time.

Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our shares of common stock. In addition, neither we nor the underwriter make any representation that the underwriter will engage in these transactions or that any transaction, if commenced, will not be discontinued without notice.

Other Relationships

The underwriter is a full-service financial institution engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The underwriter and its affiliates may, from time to time, engage in transactions with and perform services for us in the ordinary course of its business for which it may receive customary fees and reimbursement of expenses. In the ordinary course of its various business activities, the underwriter and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for its own account and for the accounts of its customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriter and its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Offer Restrictions Outside the United States

Other than in the United States, no action has been taken by us or the underwriter that would permit a public offering of the securities offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The securities offered by this prospectus supplement may not be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus supplement comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement. This prospectus supplement does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus supplement in any jurisdiction in which such an offer or a solicitation is unlawful.

Australia

This prospectus supplement is not a disclosure document under Chapter 6D of the Australian Corporations Act, has not been lodged with the Australian Securities and Investments Commission and does not purport to include the information required of a disclosure document under Chapter 6D of the Australian Corporations Act. Accordingly, (i) the offer of the securities under this prospectus supplement is only made to persons to whom it is lawful to offer the securities without disclosure under Chapter 6D of the Australian Corporations Act under one or more exemptions set out in section 708 of the Australian Corporations Act, (ii) this prospectus supplement is made available in Australia only to those persons as set forth in clause (i) above, and (iii) the offeree must be sent a notice stating in substance that by accepting this offer, the offeree represents that the offeree is such a person as set forth in clause (i) above, and, unless permitted under the Australian Corporations Act, agrees not to sell or offer for sale within Australia any of the securities sold to the offeree within 12 months after its transfer to the offeree under this prospectus supplement.

Canada

The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws. Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor. Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriter is not required to comply with the disclosure requirements of NI33-105 regarding underwriter conflicts of interest in connection with this offering.

Cayman Islands

No invitation, whether directly or indirectly, may be made to the public in the Cayman Islands to subscribe for our securities.

European Economic Area — Belgium, Germany, Luxembourg and Netherlands

The information in this document has been prepared on the basis that all offers of securities will be made pursuant to an exemption under the Directive 2003/71/EC ("Prospectus Directive"), as implemented in Member States of the European Economic Area (each, a "Relevant Member State"), from the requirement to produce a prospectus for offers of securities.

An offer to the public of securities has not been made, and may not be made, in a Relevant Member State except pursuant to one of the following exemptions under the Prospectus Directive as implemented in that Relevant Member State:

- to legal entities that are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;
- to any legal entity that has two or more of (i) an average of at least 250 employees during its last fiscal year; (ii) a total balance sheet of more than €43,000,000 (as shown on its last annual unconsolidated or consolidated financial statements) and (iii) an annual net turnover of more than €50,000,000 (as shown on its last annual unconsolidated or consolidated financial statements);
- to fewer than 100 natural or legal persons (other than qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive) subject to obtaining the prior consent of the Company or any underwriter for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall result in a requirement for the publication by the Company of a prospectus pursuant to Article 3 of the Prospectus Directive.

France

This document is not being distributed in the context of a public offering of financial securities (offre au public de titres financiers) in France within the meaning of Article L.411-1 of the French Monetary and Financial Code (Code Monétaire et Financier) and Articles 211-1 et seq. of the General Regulation of the French Autorité des marchés financiers ("AMF"). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France.

This document and any other offering material relating to the securities have not been, and will not be, submitted to the AMF for approval in France and, accordingly, may not be distributed or caused to distributed, directly or indirectly, to the public in France.

Such offers, sales and distributions have been and shall only be made in France to (i) qualified investors (investisseurs qualifiés) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-1 to D.411-3, D.744-1, D.754-1 ;and D.764-1 of the French Monetary and Financial Code and any implementing regulation and/or (ii) a restricted number of non-qualified investors (cercle restreint d'investisseurs) acting for their own account, as defined in and in accordance

with Articles L.411-2-II-2° and D.411-4, D.744-1, D.754-1; and D.764-1 of the French Monetary and Financial Code and any implementing regulation.

Pursuant to Article 211-3 of the General Regulation of the AMF, investors in France are informed that the securities cannot be distributed (directly or indirectly) to the public by the investors otherwise than in accordance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 to L.621-8-3 of the French Monetary and Financial Code.

Ireland

The information in this document does not constitute a prospectus under any Irish laws or regulations and this document has not been filed with or approved by any Irish regulatory authority as the information has not been prepared in the context of a public offering of securities in Ireland within the meaning of the Irish Prospectus (Directive 2003/71/EC) Regulations 2005 (the "Prospectus Regulations"). The securities have not been offered or sold, and will not be offered, sold or delivered directly or indirectly in Ireland by way of a public offering, except to (i) qualified investors as defined in Regulation 2(l) of the Prospectus Regulations and (ii) fewer than 100 natural or legal persons who are not qualified investors.

Israel

The securities offered by this prospectus supplement have not been approved or disapproved by the Israeli Securities Authority (the ISA), or ISA, nor have such securities been registered for sale in Israel. The shares may not be offered or sold, directly or indirectly, to the public in Israel, absent the publication of a prospectus. The ISA has not issued permits, approvals or licenses in connection with the offering or publishing the prospectus; nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the securities being offered. Any resale in Israel, directly or indirectly, to the public of the securities offered by this prospectus supplement is subject to restrictions on transferability and must be effected only in compliance with the Israeli securities laws and regulations.

Italy

The offering of the securities in the Republic of Italy has not been authorized by the Italian Securities and Exchange Commission (Commissione Nazionale per le Società e la Borsa, "CONSOB" pursuant to the Italian securities legislation and, accordingly, no offering material relating to the securities may be distributed in Italy and such securities may not be offered or sold in Italy in a public offer within the meaning of Article 1.1(t) of Legislative Decree No. 58 of 24 February 1998 ("Decree No. 58"), other than:

- to Italian qualified investors, as defined in Article 100 of Decree no.58 by reference to Article 34-ter of CONSOB Regulation no. 11971 of 14 May 1999 ("Regulation no. 1197l") as amended ("Qualified Investors"); and

- in other circumstances that are exempt from the rules on public offer pursuant to Article 100 of Decree No. 58 and Article 34-ter of Regulation No. 11971 as amended.

Any offer, sale or delivery of the securities or distribution of any offer document relating to the securities in Italy (excluding placements where a Qualified Investor solicits an offer from the issuer) under the paragraphs above must be:

- made by investment firms, banks or financial intermediaries permitted to conduct such activities in Italy in accordance with Legislative Decree No. 385 of 1 September 1993 (as amended), Decree No. 58, CONSOB Regulation No. 16190 of 29 October 2007 and any other applicable laws; and

- in compliance with all relevant Italian securities, tax and exchange controls and any other applicable laws.

Any subsequent distribution of the securities in Italy must be made in compliance with the public offer and prospectus requirement rules provided under Decree No. 58 and the Regulation No. 11971 as amended, unless an exception from those rules applies. Failure to comply with such rules may result in the sale of such securities being declared null and void and in the liability of the entity transferring the securities for any damages suffered by the investors.

Japan

The securities have not been and will not be registered under Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948), as amended (the "FIEL") pursuant to an exemption from the registration requirements applicable to a private placement of securities to Qualified Institutional Investors (as defined in and in accordance with Article 2, paragraph 3 of the FIEL and the regulations promulgated thereunder). Accordingly, the securities may not be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan other than Qualified Institutional Investors. Any Qualified Institutional Investor who acquires securities may not resell them to any person in Japan that is not a Qualified Institutional Investor, and acquisition by any such person of securities is conditional upon the execution of an agreement to that effect.

Portugal

This document is not being distributed in the context of a public offer of financial securities (oferta pública de valores mobiliários) in Portugal, within the meaning of Article 109 of the Portuguese Securities Code (Código dos Valores Mobiliários). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in Portugal. This document and any other offering material relating to the securities have not been, and will not be, submitted to the Portuguese Securities Market Commission (Comissão do Mercado de Valores Mobiliários) for approval in Portugal and, accordingly, may not be distributed or caused to distributed, directly or indirectly, to the public in Portugal, other than under circumstances that are deemed not to qualify as a public offer under the Portuguese Securities Code. Such offers, sales and distributions of securities in Portugal are limited to persons who are "qualified investors" (as defined in the Portuguese Securities Code). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Sweden

This document has not been, and will not be, registered with or approved by Finansinspektionen (the Swedish Financial Supervisory Authority). Accordingly, this document may not be made available, nor may the securities be offered for sale in Sweden, other than under circumstances that are deemed not to require a prospectus under the Swedish Financial Instruments Trading Act (1991:980) (Sw. lag (1991:980) om handel med finansiella instrument). Any offering of securities in Sweden is limited to persons who are "qualified investors" (as defined in the Financial Instruments Trading Act). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss

Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering material relating to the securities may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering material relating to the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority (FINMA).

This document is personal to the recipient only and not for general circulation in Switzerland.

United Arab Emirates

Neither this document nor the securities have been approved, disapproved or passed on in any way by the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates, nor has the Company received authorization or licensing from the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates to market or sell the securities within the United Arab Emirates. This document does not constitute and may not be used for the purpose of an offer or invitation. No services relating to the securities, including the receipt of applications and/or the allotment or redemption of such shares, may be rendered within the United Arab Emirates by the Company.

No offer or invitation to subscribe for securities is valid or permitted in the Dubai International Financial Centre.

United Kingdom

Neither the information in this document nor any other document relating to the offer has been delivered for approval to the Financial Conduct Authority in the United Kingdom and no prospectus (within the meaning of section 85 of the Financial Services and Markets Act 2000, as amended ("FSMA") has been published or is intended to be published in respect of the securities. This document is issued on a confidential basis to "qualified investors" (within the meaning of section 86(7) of FSMA) in the United Kingdom, and the securities may not be offered or sold in the United Kingdom by means of this document, any accompanying letter or any other document, except in circumstances which do not require the publication of a prospectus pursuant to section 86(1) FSMA. This document should not be distributed, published or reproduced, in whole or in part, nor may its contents be disclosed by recipients to any other person in the United Kingdom.

Any invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) received in connection with the issue or sale of the securities has only been communicated or caused to be communicated and will only be communicated or caused to be communicated in the United Kingdom in circumstances in which section 21(1) of FSMA does not apply to the Company.

In the United Kingdom, this document is being distributed only to, and is directed at, persons (i) who have professional experience in matters relating to investments falling within Article 19(5) (investment professionals) of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005 ("FPO"), (ii) who fall within the categories of persons referred to in Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the FPO or (iii) to whom it may otherwise be lawfully communicated (together "relevant persons"). The investments to which this document relates are available only to, and any invitation, offer or agreement to purchase will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Ellenoff Grossman & Schole LLP, New York, New York. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., New York, New York, is acting as counsel for the underwriter in this offering.

EXPERTS

The financial statements of RenovoRx, Inc. as of and for the year ended December 31, 2023 incorporated by reference in this registration statement, have been audited by Baker Tilly US, LLP, an independent registered public accounting firm, as set forth in their report thereon incorporated by reference in this registration statement, in reliance upon such report and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 (File No. 333-268302), of which this prospectus supplement and the accompanying base prospectus are a part, under the Securities Act, to register the shares of common stock offered by this prospectus supplement. In addition, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at http://www.sec.gov. We also maintain a website at www.renovorx.com where these materials are available. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus supplement and is not incorporated by reference herein, and the inclusion of our website address in this prospectus supplement is an inactive textual reference only. This prospectus supplement and the accompanying base prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

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

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

- our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on April 1, 2024;
- our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2024, filed with the SEC on May 10, 2024, for the quarter ended June 30, 2024, filed with the SEC on August 13, 2024, and for the quarter ended September 30, 2024, filed with the SEC on November 13, 2024;

- our Current Reports on Form 8-K, which were filed with the SEC on November 14, 2024, September 25, 2024, August 16, 2024, June 7, 2024, May 3, 2024, April 18, 2024, April 16, 2024, April 15, 2024 and April 9, 2024;
- our Definitive Proxy Statement on Schedule 14A, which was filed with the SEC on April 30, 2024; and
- the description of our common stock set forth in our registration statement on Form 8-A, filed with the SEC on August 11, 2021, including any amendments thereto or reports filed for the purposes of updating this description.

Any documents we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement and prior to the termination of this offering will automatically be deemed to be incorporated by reference into this prospectus supplement and to be part hereof from the date of filing those documents. We are not, however, incorporating by reference any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

You can request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

RenovoRx, Inc.
Attn: Investor Relations
2570 W. El Camino Real, Ste. 320
Mountain View, CA 94040
(650) 284-4433

The information accessible through any website referred to in this prospectus supplement or any document incorporated herein is not, and should not be deemed to be, a part of this prospectus supplement.

PROSPECTUS

RENOVO | RX

$50,000,000
Common Stock
Preferred Stock
Debt Securities
Purchase Contracts
Units

We may offer and sell the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities.

Each time we offer and sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. The supplement may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement, together with any documents we incorporated by reference, before you invest in any of our securities. The aggregate offering price of the securities we sell pursuant to this prospectus will not exceed $50,000,000.

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

Our common stock is listed on The Nasdaq Capital Market under the symbol "RNXT." On November 9, 2022, the last reported sale price of our common stock on The Nasdaq Capital Market was $1.93 per share.

Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell our common stock in a public primary offering with a value exceeding more than one-third of the aggregate market value of our voting and non-voting common equity held by non-affiliates in any 12-month period as long as the aggregate market value of our outstanding voting and non-voting common equity held by non-affiliates is less than $75.0 million. Calculated in accordance with General Instruction I.B.6 of Form S-3, the aggregate market value of our outstanding common stock held by non-affiliates, or the public float, was approximately $23.8 million based upon 8,819,411 shares of our outstanding stock held by non-affiliates at the per share price of $2.70 on September 12, 2022, which was the highest closing price within the last 60 days prior to the date of this filing. One-third of our public float, calculated in accordance with General Instruction I.B.6 of Form S-3 as of September 12, is equal to approximately $7.9 million. We have not offered or sold any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE "RISK FACTORS" BEGINNING ON PAGE 4 OF THIS PROSPECTUS AND IN ANY SIMILAR SECTION CONTAINED IN OR INCORPORATED BY REFERENCE HEREIN OR IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

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

The date of this prospectus is November 21, 2022.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission (the "SEC") using a "shelf" registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings as described in this prospectus. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering and, to the extent appropriate, any updates to the information about us contained in this prospectus. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell our common stock in a public primary offering with a value exceeding more than one-third of the aggregate market value of our voting and non-voting common equity held by non-affiliates in any 12-month period as long as the aggregate market value of our outstanding voting and non-voting common equity held by non-affiliates is less than $75.0 million. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

We have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover or as otherwise specified therein and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus and the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" contained or incorporated by reference in this prospectus, the applicable prospectus supplement and any related free writing prospectus and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

We own or have rights to use a number of 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. Solely for convenience, the trademarks, service marks, logos and trade names referred to in this prospectus are without the ® and ™ symbols, but such references are 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 licensors 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 companies. We have trademarks for the names RENOVORX, RENOVOGEM, RENOVOCATH, TAMP and DELIVERING THERAPY WHERE IT MATTERS. We have a trademark pending for RenovoTAMP.

PROSPECTUS SUMMARY

The following summary highlights information contained elsewhere in this prospectus. It does not contain all of the information you need to consider in making your investment decision. Before making an investment decision, you should read this entire prospectus carefully and you should consider, among other things, the matters set forth under "Risk Factors" and our financial statements and related notes thereto appearing elsewhere in this prospectus. In this prospectus, except as otherwise indicated, "RenovoRx," the "Company," "we," "our," and "us" refer to RenovoRx, Inc., a Delaware corporation, and its subsidiaries.

Company Overview

We are a clinical-stage biopharmaceutical company focused on developing therapies for the local treatment of solid tumors. We are currently conducting a Phase 3 registrational trial for our lead product candidate RenovoGem™. Our therapy platform, RenovoRx Trans-Arterial Micro-Perfusion, or RenovoTAMP™, utilizes approved chemotherapeutics with validated mechanisms of action and well-established safety and side effect profiles, with the goal of increasing their efficacy, improving their safety, and widening their therapeutic window by combining such chemotherapeutics with our proprietary drug delivery system. RenovoTAMP combines our patented Food and Drug Administration ("FDA") cleared delivery system, RenovoCath®, with small molecule chemotherapeutic agents that can be forced across the vessel wall using pressure, targeting these anti-cancer drugs locally to the solid tumors. While we anticipate investigating other chemotherapeutic agents for intra-arterial delivery via RenovoTAMP, our clinical work to date has focused on gemcitabine, which is a generic small molecule drug. Our first product candidate, RenovoGem, is a drug /device combination consisting of intra-arterial gemcitabine and RenovoCath. FDA has determined that RenovoGem will be regulated as, and if approved we expect will be reimbursed as, a new oncology drug product. We have secured FDA Orphan Drug Designation for RenovoGem in two indications: pancreatic cancer and cholangiocarcinoma (bile duct cancer, or CCA). We have completed our RR1 Phase 1/2 and RR2 observational registry studies, with 20 and 25 patients respectively, in locally advanced pancreatic cancer, or LAPC. These studies demonstrated a median overall survival of 27.9 months in patients pre-treated with radiation followed by treatment with RenovoGem. Based on previous large randomized clinical trials, the expected survival of LAPC patients is 12 - 15 months in patients receiving only intravenous (IV) systemic chemotherapy or IV chemotherapy plus radiation (which are both considered standard of care). Unlike the randomized trials that established these

standard-of-care results, our RR1 and RR2 clinical trials did not prospectively control the standard of care therapy received prior to administration of RenovoGem. Based on an FDA safety review of our Phase 1/2 study, FDA allowed us to proceed to evaluate RenovoGem within our Phase 3 registrational clinical trial.

In December 2021 we amended the protocol for this clinical trial to only allow for stereotactic body radiation therapy (SBRT) during the induction phase of the study (prior to randomization). We had previously permitted both SBRT and intensity-modulated radiation therapy (IMRT). Patients receiving IMRT, must complete 25 radiation treatments in combination with oral chemotherapy during the induction phase of the study, which takes between 35 and 56 days to complete. In comparison, patients receiving SBRT during the induction phase are only required to complete 5 treatments, over 5 consecutive days, and do not receive oral chemotherapy. The decision to modify the study population was based on the observation in the Phase 3 TIGeR-PaC study that IMRT patients had a higher dropout rate during the induction phase of the study due to the high frequency of hospital visits and side effects from the required concurrent chemotherapy. As part of the pre-randomization, induction phase change made to the protocol, we initiated a review of the statistical considerations for the study and in June 2022, submitted a modified Statistical Analysis Plan (the "Modified SAP") to FDA. As part of the Modified SAP, we now plan to (i) analyze only patients receiving SBRT, consistent with the protocol change made in December 2021, (ii) include a second interim analysis, (iii) change the total number of SBRT patients randomized in the study to 114 (a reduction from the original 200 patients) with a total of 86 deaths from SBRT patients, including all deaths from SBRT patients enrolled in the study before the submission of the Modified SAP, and (iv) repower the study from 90% to 80%, which is commonly used in clinical trials. We believe these changes will shorten the timeframe needed to complete the study and also significantly decrease our costs. We have not discussed the protocol amendment or the Modified SAP with the FDA, and we cannot provide any assurance that the FDA will agree with these modifications. The first planned interim analysis is triggered when 30%, or 26 of 86, of the total number of deaths have occurred, and the second interim analysis at 60%, or 52 of 86, of the total number of deaths have occurred. Given that the timing of the interim analysis is predicated on a specific number of deaths, it is difficult to predict the exact timing of the interim analysis or when we will be able to complete the study. As of September 21, 2022, the Phase 3 TIGeR-PaC trial has randomized 43 patients out of the 114 total needed under the Modified SAP. At this rate, we anticipate that all patients will be enrolled and randomized in 2024, with the final study readout in 2025. We plan to submit a protocol amendment to FDA in the second half of 2022 to reflect the changes in the Modified SAP.

We are also planning to evaluate RenovoGem in a second indication in a Phase 2/3 trial in extrahepatic (or outside the liver) cholangiocarcinoma (or eCCA), cancer that occurs in the bile ducts that lead out of the liver and join with the gallbladder. After significant input from key opinion leaders across the spectrum of relevant medical specialties and feedback from the FDA, we submitted the protocol for a Phase 2/3 eCCA clinical trial to FDA. If FDA does not object to our study protocol, we anticipate launching the eCCA trial and enrolling the first patient in the fourth quarter of 2022. In addition, we may evaluate RenovoGem in other indications, potentially including locally advanced lung cancer, locally advanced uterine tumors, and glioblastoma (an aggressive type of cancer that can occur in the brain or spinal cord). To date, we are focused on developing drug/device candidates with gemcitabine, but in the future, we may develop other product candidates with other chemotherapeutic agents for intra-arterial delivery via our RenovoTAMP therapy platform.

Our RenovoTAMP therapy platform is focused on optimizing drug concentration in solid tumors using approved small molecule chemotherapeutics. Our platform enables physicians to isolate segments of the vascular anatomy closest to tumors and force chemotherapy across the blood vessel wall to bathe these difficult-to-reach tumors in chemotherapy. Specifically, our patented approach allows physicians to combine, on the one hand, pre-treatment of the local blood vessels and tissue with standard-of-care radiation therapy to decrease chemotherapy washout and, on the other hand, local delivery via our patented RenovoCath delivery system which utilizes pressure to force small molecule chemotherapy into the tumor tissue. We believe there are many advantages to our RenovoTAMP therapy platform:

- Application of Approved Small Molecule Chemotherapeutic Agents: We use approved small molecule chemotherapeutic agents, such as gemcitabine, with well-known safety and efficacy profiles.
- Targeted Approach: In a preclinical study using our therapy platform, we demonstrated up to 100 times higher local drug concentration compared to systemic chemotherapy. We believe our RenovoTAMP therapy platform allows for a targeted approach that can decrease systemic exposure and improve patient outcomes.
- Delivery Method Independent of Tumor Vascularity: Our therapy platform is designed to deliver small molecule chemotherapeutic agents to solid tumors resistant to systemic chemotherapy due to lack of tumor feeder blood vessels. If approved, our product candidates have the potential to treat tumors that are not directly supported by blood vessels.
- Broad Application for Solid Tumor Indications: Our therapy platform is not restricted to a single small molecule chemotherapeutic agent or solid tumor type. As such, it may be applied for use in additional solid tumor indications, including in solid tumors without identifiable tumor feeder blood vessels.

Corporate Information

We were incorporated in the State of Delaware on December 17, 2012. Our principal executive offices are located at 4546 El Camino Real, Suite B1, Los Altos, CA 94022. Our telephone number is (650) 284-4433. Our website address is https://renovorx.com. Information contained in our website does not constitute any part of, and is not incorporated into, this prospectus.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making a decision to invest in our securities, in addition to carefully considering the Risk Factors noted below and the other information contained in this prospectus and incorporated by reference herein, you should carefully consider the risks described under the caption "Risk Factors" contained in our most recent annual report on Form 10-K and in our most recent quarterly report on Form 10-Q, as well as any amendments thereto, which are incorporated by reference into this prospectus in their entirety. See "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

FORWARD-LOOKING STATEMENTS

This prospectus, each prospectus supplement and the information incorporated by reference herein contain forward-looking statements. All statements other than statements of historical facts contained in this prospectus and the information incorporated by reference herein, including statements regarding our future results of operations and financial position, business strategy, product candidates, planned preclinical studies and clinical trials, results of clinical trials, research and development costs, regulatory approvals, timing and likelihood of success, as well as plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that are in some cases beyond our control and may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "would," "expect," "plan," "anticipate," "could," "intend," "target," "project," "believe," "estimate," "predict," "potential," or "continue" or the negative of these terms or other similar expressions. Forward-looking statements contained in this

prospectus and the documents incorporated by reference herein include, but are not limited to, statements about:

- the sufficiency of our existing cash, cash equivalents, and investments to fund our future operating expenses and capital expenditure requirements;
- our estimates regarding expenses, future revenue, anticipated capital requirements to fund our future operating expenses, and our need for additional financing;
- our financial performance;
- our anticipated use of our existing cash, cash equivalents, and investments;
- the ability of our clinical trials to demonstrate safety and efficacy of our product candidates, and other positive results;
- the progress and focus of our current and future clinical trials, and the timing of reporting of data from those trials;
- our continued reliance on third parties to conduct clinical trials of our product candidates, and for the manufacture of our product candidates;
- the beneficial characteristics, safety, efficacy, and therapeutic effects of our product candidates;
- our ability to advance product candidates into and successfully complete clinical trials;
- our ability to further develop and expand our therapy platform, both to use different chemotherapeutic agents and to include new indications;

- expectations relating to the timing of the provision of updates on, data readouts for, and completion of our clinical trials;
- our ability to obtain and maintain regulatory approval of our product candidates and the timing or likelihood of regulatory filings and approvals, including our expectation to seek special designations, such as orphan drug designation, for our product candidates for various diseases;
- existing regulations and regulatory developments in the United States and other jurisdictions;
- our plans relating to commercializing our product candidates, if approved, including the geographic areas of focus and our potential and ability to successfully commercialize our product candidates and generate revenue;
- the implementation of our strategic plans for our business and product candidates;
- the expected potential benefits of strategic collaborations with third parties and our ability to attract collaborators with relevant and complementary expertise;
- our estimates of the number of patients in the United States who suffer from the diseases we target, and enrollment timing and projections for our clinical trials;
- our estimates of potential market opportunities and our ability to successfully realize these opportunities;
- the success of competing therapies that are or may become available;
- developments relating to our competitors and our industry, including competing product candidates and therapies;
- our plans relating to the further development and manufacturing of our product candidates, including for additional indications which we may pursue;
- our plans and ability to obtain or protect intellectual property rights, including extensions of existing patent terms where available;
- the scope of protection we are able to establish and maintain for intellectual property rights, including our therapy platform and product candidates;
- our ability to successfully negotiate and enter into agreements with distribution, strategic and corporate partners;
- our potential and ability to successfully manufacture and supply our product candidates for clinical trials and for commercial use, if approved;
- our ability to retain the continued service of our key personnel and to identify, hire, and then retain additional qualified personnel; and
- our expectations regarding the impact of the ongoing COVID-19 pandemic and geopolitical events on our business.

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described in the section titled “Risk Factors” and elsewhere in this prospectus, each accompanying prospectus supplement, and the information incorporated by reference herein and therein. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein until after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely upon these statements.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds to us from the sale of our securities under this prospectus. Unless otherwise provided in the applicable prospectus supplement, we currently expect to use the net proceeds that we receive from this offering for working capital and other general corporate purposes. We may also use

a portion of the net proceeds to acquire, license or invest in complementary products, technologies or businesses; however, we currently have no agreements or commitments to complete any such transaction. The expected use of net proceeds of this offering represents our current intentions based on our present plans and business conditions. We cannot specify with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering. Pending these uses, we plan to invest the net proceeds of this offering in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

DESCRIPTION OF SECURITIES

We may issue from time to time, in one or more offerings, the following securities:

- shares of common stock, par value $0.0001 per share, of the Company;
- shares of preferred stock, par value $0.0001 per share, of the Company;
- debt securities, which may be senior or subordinated, and which may be convertible into our common stock or be non-convertible;
- purchase contracts; and
- units representing two or more of the foregoing securities.

We will set forth in the applicable prospectus supplement and/or free writing prospectus a description of any debt securities, purchase contracts or units issued by us that may be offered or sold pursuant to this prospectus. The terms of the offering of securities, the initial offering price and the net proceeds to us will be contained in the prospectus supplement, and other offering material, relating to such offer.

DESCRIPTION OF CAPITAL STOCK

The following descriptions of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to our amended and restated certificate of incorporation and the amended and restated bylaws, copies of which are filed with the SEC as exhibits to our registration statement, of which this prospectus forms a part.

General

Our amended and restated certificate of incorporation authorizes common stock and preferred stock. Our authorized capital stock consists of 265,000,000 shares, $0.0001 par value per share, of which:

- 250,000,000 shares are designated as common stock; and
- 15,000,000 shares are designated as preferred stock.

Common Stock

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive ratably those dividends, if any, as may be declared by the board of directors out of legally available funds. In the event of our liquidation, dissolution or winding up, the holders of our common stock will be entitled to share ratably in the assets legally available for distribution to stockholders after the payment of or provision for all of our debts and other liabilities, subject to the prior rights of any preferred stock then outstanding. Holders of our common stock have no preemptive, conversion or other subscription rights and there are no redemption or sinking funds provisions applicable to our common stock. All outstanding shares of our common stock are duly authorized, validly issued, fully paid and nonassessable. The rights, preferences and privileges of holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Voting Rights

Each holder of our common stock is entitled to one vote per share on matters to be voted on by stockholders and also are entitled to receive such dividends, if any, as may be declared from time to time by our board of directors in its discretion out of funds legally available therefor. Holders of our common stock have exclusive voting rights for the election of our directors and all other matters requiring stockholder action, except with respect to amendments to our certificate of incorporation that alter or change the powers, preferences, rights or other terms of any outstanding preferred stock if the holders of such affected series of preferred stock are entitled to vote on such an amendment or filling vacancies on the board of directors. The presence at meetings of the stockholders, in person, by remote communication or by proxy, of the holders of our common stock representing a majority of the combined voting power of the outstanding shares of common stock will constitute a quorum for the transaction of business at such meetings.

Dividends

Holders of common stock are entitled to share ratably in any dividends declared by our board of directors, if any, subject to any preferential dividend rights of any outstanding preferred stock. Dividends consisting of shares of common stock may be paid to holders of shares of common stock.

Liquidation

Upon our liquidation or dissolution, the holders of our common stock will be entitled to receive pro rata all assets remaining available for distribution to stockholders after payment of all liabilities and provision for the liquidation of any shares of preferred stock at the time outstanding.

Rights and Preferences

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

Fully Paid and Nonassessable

All of our outstanding shares of common stock are fully paid and nonassessable.

Preferred Stock

Our board of directors will have the authority, without further action by the stockholders, to issue up to 15,000,000 shares of preferred stock in one or more series and to fix the designations, powers, preferences, privileges, and relative participating, optional, or special rights as well as the qualifications, limitations, or restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption, and liquidation preferences, any or all of which may be greater than the rights of the common stock. Our board of directors, without stockholder approval, will be able to issue convertible preferred stock with voting, conversion, or other rights that could adversely affect the voting power and other rights of the holders of common stock. Preferred stock could be issued quickly with terms calculated to delay or prevent a change of control or make removal of management more difficult. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of our common stock, and may adversely affect the voting and other rights of the holders of common stock. We have no present plans to issue any shares of preferred stock.

Public Warrants

On August 25, 2021, our Registration Statement on Form S-1/A relating to the IPO of units of securities, or Units, was declared effective by the SEC. In connection with the IPO, we issued and sold an aggregate of 1,850,000 units at a price of $9.00 per unit. Each unit consisted of (a) one share of common stock and (b) one warrant to purchase one share of common stock at an exercise price equal to $10.80 per share, which is exercisable for a period of five years after the issuance date ("Warrant(s)"). We also granted the underwriters an over-allotment option, exercisable for 45 days after August 25, 2021, to purchase any combination of up to 277,500 shares of our common stock and/or common stock warrants to purchase 277,500 shares of common stock with an exercise price of $10.80 per share. The underwriters exercised their over-allotment option to purchase 277,500 common stock warrants on August 30, 2021. In connection with the IPO, the underwriters were issued a five-year warrant, exercisable on or after February 25, 2022, to purchase up to 198,875 shares of the Company's common stock at an exercise price of $10.80 (the "Underwriter's Warrant").

Warrant Agent

The Warrants were issued in registered form under a warrant agent agreement (the "Warrant Agent Agreement") between us and our warrant agent, Pacific Stock Transfer Co. (the "Warrant Agent"). The material provisions of the warrants are set forth herein and a copy of the Warrant Agent Agreement has been filed as an exhibit to the Registration Statement on Form S-1/A. The Company and the Warrant Agent may amend or supplement the Warrant Agent Agreement without the consent of any holder for the purpose of curing any ambiguity, or curing, correcting or supplementing any defective provision contained therein or adding or changing any other provisions with respect to matters or questions arising under the Warrant Agent Agreement as the parties thereto may deem necessary or desirable and that the parties determine, in good faith, shall not adversely affect the interest of the Warrant holders. All other amendments and supplements to the Warrant Agent Agreement shall require the vote or written consent of holders of at least 50.1% of the Warrants.

Warrant Terms

The Warrants entitle the registered holder to purchase one share of our common stock at a price equal to $10.80 per share, subject to adjustment as discussed below, terminating at 5:00 p.m., New York City time, on the fifth (5^{th}) anniversary of the date of issuance.

The exercise price and number of shares of common stock issuable upon exercise of the Warrants may be adjusted in certain circumstances, including in the event of a stock dividend, extraordinary dividend or recapitalization, reorganization, merger or consolidation.

The Warrants may be exercised upon surrender of the warrant certificate on or prior to the expiration date at the offices of the Warrant Agent, with the exercise form attached to the warrant certificate completed and executed as indicated, accompanied by full payment of the exercise price, by certified or official bank check payable to us, for the number of warrants being exercised. The Warrant holders do not have the rights or privileges of holders of common stock or any voting rights until they exercise their Warrants and receive shares of common stock, except as set forth in the Warrants. After the issuance of shares of common stock upon exercise of the Warrants, each holder will be entitled to one vote for each share held of record on all matters to be voted on by stockholders.

No Warrants will be exercisable for cash unless at the time of the exercise a prospectus or prospectus relating to common stock issuable upon exercise of the Warrants is current and the common stock has been registered or qualified or deemed to be exempt under the securities laws of the state of residence of the holder of the warrants. Under the terms of the Warrant Agent Agreement, we have agreed to use our best efforts to maintain a current prospectus or prospectus relating to common stock issuable upon exercise of the Warrants until the expiration of the Warrants. Additionally, the market for the Warrants may be limited if the prospectus or prospectus relating to the common stock issuable upon exercise of the Warrants is not current or if the common stock is not qualified or exempt from qualification in the jurisdictions in which the holders of such Warrants reside. In no event will the registered holders of a Warrant be entitled to receive a net-cash settlement in lieu of physical settlement in shares of our common stock.

No fractional shares of common stock will be issued upon exercise of the Warrants. If, upon exercise of the Warrants, a holder would be entitled to receive a fractional interest in a share, we will, upon exercise, round down to the nearest whole number the number of shares of common stock to be issued to the Warrant holder. If multiple Warrants are exercised by the holder at the same time, we will aggregate the number of whole shares issuable upon exercise of all the Warrants.

Private Warrants

In the IPO, we triggered the automatic conversion of certain outstanding convertible notes plus accrued interest into an aggregate of 708,820 private units, each unit consisting of one share of common stock and one five-year warrant to purchase one share of common stock at an exercise price equal to $10.80 per share. The private warrants have substantially the same terms as the public Warrants except that the private warrants were issued in a transaction exempt from the registration requirements of the Securities Act.

Registration Rights

We are party to that certain Underwriter's Warrant dated August 30, 2021, that provides that certain holders of our common stock have certain registration rights as set forth below. The registration of shares of our common stock by the exercise of registration rights would enable the holders to sell these shares without restriction under the Securities Act when the applicable registration statement is declared effective. Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares such holders may include.

Demand Registration Rights

The Underwriter's Warrant will provide for one demand registration right at our expense and an additional demand registration right at the holder's expense for a period of five years following the date of commencement of the IPO.

Piggyback Registration Rights

The Underwriter's Warrant will provide for unlimited piggyback registration rights at our expense for a period of five years following the date of commencement of the IPO.

Anti-Takeover Effects of Certain Provisions of Delaware Law, Our Amended and Restated Certificate of Incorporation and Our Amended and Restated Bylaws

Certain provisions of Delaware law and certain provisions included in our Sixth Amended and Restated Certificate of Incorporation and our Amended and Restated Bylaws summarized below may be deemed to have an anti-takeover effect and may delay, deter, or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests, including attempts that might result in a premium being paid over the market price for the shares held by stockholders.

Board of Directors Vacancies

Our Sixth Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws authorize only our board of directors to fill vacant directorships. In addition, the number of directors constituting our board of directors may be set only by resolution of the majority of the incumbent directors.

Removal of Directors

Our Sixth Amended and Restated Certificate of Incorporation provides that stockholders may only remove a director for cause by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Company entitled to vote at an election of directors.

No Cumulative Voting

Our Sixth Amended and Restated Certificate of Incorporation provides that stockholders do not have the right to cumulate votes in the election of directors.

Stockholder Action; Special Meeting of Stockholders

Our Sixth Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide that our stockholders may not take action by written consent. Our Sixth Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws further provide that special meetings of our stockholders may be called by a majority of the board of directors, the Chief Executive Officer, or the Chairman of the board of directors.

Advance Notice Requirements for Stockholder Proposals and Director Nominations

Our Amended and Restated Bylaws provide that stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders, must provide timely notice of their intent in writing. To be timely, a stockholder's notice must be delivered to the secretary at our principal executive offices not later than 5 p.m., local time, on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, or if no annual meeting was held in the preceding year, notice by the stockholder to be timely must be so delivered not earlier than 5 p.m., local time, on the 120th day prior to such annual meeting and not later than 5 p.m., local time, on the later of the 90th day prior to such annual meeting or the 10th day following the day on which a public announcement of the date of such meeting is first made by us. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders.

Authorized but Unissued Shares

Our authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval and may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise. If we issue such shares without stockholder approval and in violation of limitations imposed by the Nasdaq Capital Market or any stock exchange on which our stock may then be trading, our stock could be delisted.

Exclusive Forum

Our Sixth Amended and Restated Certificate of Incorporation provides that unless we consent in writing to the selection of an alternative forum, the State of Delaware is the sole and exclusive forum for: (i) any derivative action or proceeding brought on behalf of us, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of our Company to us or our stockholders, (iii) any action asserting a claim against us, our directors, officers or employees arising pursuant to any provision of the DGCL or our Sixth Amended and Restated Certificate of Incorporation or our Amended and Restated Bylaws, or (iv) any action asserting a claim against us, our directors, officers, employees or agents governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction.

Additionally, our Sixth Amended and Restated Certificate of Incorporation provides that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock are deemed to have notice of and consented to this provision.

Business Combinations with Interested Stockholders

We are governed by Section 203 of the DGCL. Subject to certain exceptions, Section 203 of the DGCL prohibits a public Delaware corporation from engaging in a business combination (as defined in such section) with an "interested stockholder" (defined generally as any person who beneficially owns 15% or more of the outstanding voting stock of such corporation or any person affiliated with such person) for a period of three years following the time that such stockholder became an interested stockholder, unless (i) prior to such time the board of directors of such corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder; (ii) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of such corporation at the time the transaction commenced (excluding for purposes of determining the voting stock of such corporation outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (A) by persons who are directors and also officers of such corporation and (B) by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer); or (iii) at or subsequent to such time the business combination is approved by the board of directors of such corporation and authorized at a meeting of stockholders (and not by written consent) by the affirmative vote of at least 66 2/3% of the outstanding voting stock of such corporation not owned by the interested stockholder.

Limitation of Liability and Indemnification of Officers and Directors

Our Sixth Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide that we must indemnify our directors and officers to the fullest extent authorized by the DGCL. We are expressly authorized to, and do, carry directors' and officers' insurance providing coverage for our directors, officers and certain employees for some liabilities. We believe that these indemnification provisions and insurance are useful to attract and retain qualified directors and executive officers.

The limitation on liability and indemnification provisions in our certificate of incorporation and bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duty. These provisions may also have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Investors may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

Listing

Our common stock is listed on The Nasdaq Capital Market under the trading symbol "RNXT."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Pacific Stock Transfer Co. The transfer agent and registrar's address is 6725 Via Austi Parkway #300, Las Vegas, NV 89119.

DESCRIPTION OF DEBT SECURITIES

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

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

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

General

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

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered the aggregate principal amount and the following terms of the debt securities, if applicable:

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

- any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and the terms and conditions upon which securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;
- the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;
- the denominations in which the debt securities will be issued, if other than denominations of $1,000 and any integral multiple thereof;
- whether the debt securities will be issued in the form of certificated debt securities or global debt securities;
- the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;

- the currency of denomination of the debt securities, which may be United States dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;
- the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made;
- if payments of principal of, premium or interest on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the manner in which the amounts of payment of principal of, premium, if any, or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;
- any provisions relating to any security provided for the debt securities;
- any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any addition to, deletion of or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities;
- any other terms of the debt securities, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities; and
- whether any of our direct or indirect subsidiaries will guarantee the debt securities of that series, including the terms of subordination, if any, of such guarantees.

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

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

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of a clearing agency registered under the Exchange Act, which we refer to as the depositary, or a nominee of the depositary (we will refer to any debt security represented by a global debt security as a "book-entry debt security"), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a "certificated debt security") as set forth in the applicable prospectus supplement. Except as set forth under the heading "Global Debt Securities and Book-Entry System" below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities

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

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

Global Debt Securities and Book-Entry System

Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the depositary, and registered in the name of the depositary or a nominee of the depositary.

Covenants

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities.

No Protection in the Event of a Change of Control

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

Consolidation, Merger and Sale of Assets

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to any person, which we refer to as a successor person, unless:

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

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

Events of Default

"Event of Default" means with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of 30 days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);
- default in the payment of principal of any security of that series at its maturity;
- default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee, or we and the trustee receive written notice from the holders of not less than 25% in principal amount of the outstanding debt securities of that series as provided in the indenture;
- certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of us; and
- any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement.

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

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

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

The indenture provides that the trustee may refuse to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in performing such duty or exercising such right or power. Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series.

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

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

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

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. If a Default or Event of Default occurs and is continuing with respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall send to each securityholder of the securities of that series notice of a Default or Event of Default within 90 days after it occurs or, if later, after a responsible officer of the trustee has knowledge of such Default or Event of Default. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities.

Modification and Waiver

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

- to cure any ambiguity, defect or inconsistency;
- to comply with covenants in the indenture described above under the heading "Consolidation, Merger and Sale of Assets";
- to provide for uncertificated securities in addition to or in place of certificated securities;
- to add guarantees with respect to debt securities of any series or secure debt securities of any series;
- to surrender any of our rights or powers under the indenture;
- to add covenants or events of default for the benefit of the holders of debt securities of any series;
- to comply with the applicable procedures of the applicable depositary;
- to make any change that does not adversely affect the rights of any holder of debt securities;

- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or
- to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act.

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

- reduce the amount of debt securities whose holders must consent to an amendment, supplement or waiver;

- reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;
- reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;
- reduce the principal amount of discount securities payable upon acceleration of maturity;
- waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);
- make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;
- make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or
- waive a redemption payment with respect to any debt security.

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

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance

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

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

Defeasance of Certain Covenants

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

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

We refer to this as covenant defeasance. The conditions include:

- depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities;
- such deposit will not result in a breach or violation of, or constitute a default under the indenture or any other agreement to which we are a party;
- no Default or Event of Default with respect to the applicable series of debt securities shall have occurred or is continuing on the date of such deposit; and

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

No Personal Liability of Directors, Officers, Employees or Stockholders

None of our past, present or future directors, officers, employees or stockholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability. This waiver and release is part of the consideration for the issue of the debt securities. However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy.

Governing Law

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

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

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

DESCRIPTION OF PURCHASE CONTRACTS

The following description summarizes the general features of the purchase contracts that we may offer under this prospectus. Although the features we have summarized below will generally apply to any future purchase contracts we may offer under this prospectus, we will describe the particular terms of any purchase contracts that we may offer in more detail in the applicable prospectus supplement. The specific terms of any purchase contracts may differ from the description provided below as a result of negotiations with third parties in connection with the issuance of those purchase contracts, as well as for other reasons. Because the terms of any purchase contracts we offer under a prospectus supplement may differ from the terms we describe below, you should rely solely on information in the applicable prospectus supplement if that summary is different from the summary in this prospectus.

We will incorporate by reference into the registration statement of which this prospectus is a part any purchase contract that we may offer under this prospectus before the sale of the related purchase contract. We urge you to read any applicable prospectus supplement related to specific purchase contracts being offered, as well as the complete instruments that contain the terms of the securities that are subject to those purchase contracts. Certain of those instruments, or forms of those instruments, have been filed as exhibits to the registration statement of which this prospectus is a part, and supplements to those instruments or forms may be incorporated by reference into the registration statement of which this prospectus is a part, from reports we file with the SEC.

We may issue purchase contracts, including contracts obligating holders to purchase from us, and for us to sell to holders, a specific or variable number of our securities at a future date or dates. Alternatively, the purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specific or varying number of our securities.

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

- the price of the securities or other property subject to the purchase contracts (which may be determined by reference to a specific formula described in the purchase contracts);
- whether the purchase contracts are issued separately, or as a part of units each consisting of a purchase contract and one or more of our other securities, including U.S. Treasury securities, securing the holder's obligations under the purchase contract;
- any requirement for us to make periodic payments to holders or vice versa, and whether the payments are unsecured or pre-funded;
- any provisions relating to any security provided for the purchase contracts;
- whether the purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the purchase contracts are to be prepaid or not;
- whether the purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance or level of the securities subject to purchase under the purchase contract;
- any acceleration, cancellation, termination or other provisions relating to the settlement of the purchase contracts;
- a discussion of certain U.S. federal income tax considerations applicable to the purchase contracts;
- whether the purchase contracts will be issued in fully registered or global form; and
- any other terms of the purchase contracts and any securities subject to such purchase contracts.

DESCRIPTION OF UNITS

We may issue units comprising two or more securities described in this prospectus in any combination. For example, we might issue units consisting of a combination of common stock and warrants to purchase preferred stock. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date. A copy of the forms of the unit agreement and the unit certificate relating to any particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the unit agreement and the related unit certificate, see the section of this prospectus captioned "Where You Can Find More Information."

The prospectus supplement relating to any particular issuance of units will describe the terms of those units, including, to the extent applicable, the following:

- the designation and terms of the units and the securities included in the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, direct sales to the public, "at the market" offerings, negotiated transactions, block trades or a combination of these methods. We may sell the offered securities from time to time:

- through underwriters or dealers;
- through agents;
- directly to one or more purchasers; or
- through a combination of any of these methods of sale.

We will identify the specific plan of distribution, including any underwriters, dealers, agents or direct purchasers and their compensation in the applicable prospectus supplement.

LEGAL MATTERS

Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California, will pass upon certain legal matters relating to the issuance and sale of the securities offered hereby on behalf of RenovoRx, Inc. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The financial statements of RenovoRx, Inc. as of and for the year ended December 31, 2021 incorporated by reference in this registration statement, have been audited by Baker Tilly US, LLP, an independent registered public accounting firm, as set forth in their report thereon incorporated by reference in this registration statement, in reliance upon such report and upon the authority of said firm as experts in accounting and auditing.

The financial statements as of December 31, 2020 and for the year then ended included in this prospectus and in the registration statement have been so included in reliance on the report of Frank, Rimerman & Co. LLP, an independent registered public accounting firm, (the report on the financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern) appearing elsewhere herein and in the registration statement, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at http://www.sec.gov. We also maintain a website at www.renovorx.com where these materials are available. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus and is not incorporated by reference herein, and the inclusion of our website address in this prospectus is an inactive textual reference only. This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the indenture and other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

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

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

- our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 30, 2022;
- our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2022, filed with the SEC on May 13, 2022, and for the quarter ended June 30, 2022, filed with the SEC on August 12, 2022;
- our Current Reports on Form 8-K, which were filed with the SEC on June 9, 2022, July 19, 2022 and September 19, 2022; and
- the description of our common stock set forth in our registration statement on Form 8-A, filed with the SEC on August 11, 2021, including any amendments thereto or reports filed for the purposes of updating this description.

Any documents we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, as well as subsequent to the effectiveness of the registration statement and prior to the termination of the offering of our securities to which this prospectus relates, will automatically be deemed to be incorporated by reference into this prospectus and to be part hereof from the date of filing those documents. We are not, however, incorporating by reference any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

You can request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

RenovoRx, Inc.
Attn: Investor Relations
4546 El Camino Real, Suite B1
Los Altos, California 94022
650-284-4433

The information accessible through any website referred to in this prospectus or any document incorporated herein is not, and should not be deemed to be, a part of this prospectus.

RENOVO | RX

Shares of Common Stock
Pre-Funded Warrants to Purchase Up to Shares of Common Stock

PROSPECTUS SUPPLEMENT

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a division of American Capital Partners

February , 2025