

PROSPECTUS SUPPLEMENT
(To prospectus dated February 3, 2023)**XORTX Therapeutics Inc.****Up to \$3,701,931****Common Shares**

We have entered into an At The Market Offering Agreement (the “**Sales Agreement**”) with H.C. Wainwright & Co., LLC (“**Wainwright**”), dated November 29, 2023, relating to the sale of our common shares from time to time offered by this prospectus supplement and the accompanying prospectus. In accordance with the terms of the Sales Agreement, we may offer and sell our common shares having an aggregate offering price of up to \$3,701,931 from time to time through Wainwright, acting as our sales agent.

Our common shares are listed on the Nasdaq Capital Market (“**Nasdaq**”) and on the TSX Venture Exchange (the “**TSXV**”) under the symbol “**XRTX**”. On November 28, 2023, the closing price of the common shares on the TSXV was C\$3.95 per common share, and the closing price of the common shares on Nasdaq was \$3.00 per common share. The TSXV has conditionally approved the listing of the common shares issuable pursuant to the Sales Agreement, subject to the Company fulfilling all of the listing requirements of the TSXV. Notification of the offering pursuant to the Sales Agreement has been provided to Nasdaq.

Sales of our common shares, if any, under this prospectus supplement may be made by any method permitted that is deemed an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act of 1933, as amended (the “**Securities Act**”). Wainwright is not required to sell any specific number or amount of our common shares, but will act as our sales agent using commercially reasonable efforts, consistent with its normal trading and sales practices on mutually agreed terms between Wainwright and us. There is no arrangement for funds to be received in an escrow, trust, or similar arrangement.

No sales of our common shares under this prospectus supplement will be made in Canada or over or through the facilities of the TSXV or any other exchange or market in Canada.

Wainwright will receive from us a commission equal to 3.0% of the gross sales price of all shares sold through it under the Sales Agreement. In connection with the sale of common shares on our behalf, Wainwright may be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Wainwright may be deemed to be underwriting commissions or discounts.

We are an “emerging growth company” as defined by the Jumpstart Our Business Startups Act of 2012 and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings. However, we have elected not to take advantage of the extended transition period allowed for emerging growth companies for complying with new or revised accounting guidance as allowed by Section 107 of the JOBS Act and Section 7(a)(2)(B) of the Securities Act.

Pursuant to General Instruction I.B.5 of Form F-3, in no event will we sell securities in a public primary offering with a value exceeding more than one-third of the aggregate market value of our common shares held by non-affiliates in any 12-month period as long as the aggregate market value of our outstanding common shares held by non-affiliates is less than \$75 million. The aggregate market value of our outstanding common shares held by non-affiliates pursuant to General Instruction I.B.5 of Form F-3 was \$11,105,794, which is based on 17,352,804 common shares (on a pre-reverse split basis) held by non-affiliates on October 20, 2023 and a price of \$0.64 per share (on a pre-reverse split basis), the closing price of our common shares on October 20, 2023 on Nasdaq. During the 12 calendar months prior to and including the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.5 of Form F-3.

An investment in our securities involves a high degree of risk. Please read “Risk Factors” on page S-11 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement before investing in our securities.

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

H.C. Wainwright & Co.

The date of this prospectus supplement is November 29, 2023.

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT

	<u>Page</u>
ABOUT THIS PROSPECTUS SUPPLEMENT	S-1
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	S-3
PROSPECTUS SUPPLEMENT SUMMARY	S-5
THE OFFERING	S-10
RISK FACTORS	S-11
USE OF PROCEEDS	S-16
CAPITALIZATION AND INDEBTEDNESS	S-17
DILUTION	S-18
PRICE RANGE AND TRADING VOLUME	S-19
DESCRIPTION OF SECURITIES	S-20
PLAN OF DISTRIBUTION	S-21
CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS	S-22
EXPENSES	S-31
MATERIAL CHANGES	S-31
LEGAL MATTERS	S-31
EXPERTS	S-31
ENFORCEABILITY OF CIVIL LIABILITIES	S-31
WHERE YOU CAN FIND MORE INFORMATION	S-32
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE	S-33

PROSPECTUS

	<u>Page</u>
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	1
PUBLICLY AVAILABLE INFORMATION ON XORTX	2
DOCUMENTS INCORPORATED BY REFERENCE	3
RISK FACTORS	4
MATERIAL CHANGES	4
CAPITALIZATION AND INDEBTEDNESS	5
DESCRIPTION OF SHARE CAPITAL	6
DESCRIPTION OF THE WARRANTS	7
DESCRIPTION OF THE UNITS	7
USE OF PROCEEDS	10
PLAN OF DISTRIBUTION	11
TRADING PRICE AND VOLUME	11
DIVIDEND POLICY	11
DILUTION	11
LEGAL MATTERS	11
EXPENSES OF ISSUANCE AND DISTRIBUTION	12
EXPERTS	12
TRANSFER AGENT, REGISTRAR AND AUDITOR	12

	<u>Page</u>
<u>DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES</u>	<u>12</u>
<u>MATERIAL CONTRACTS</u>	<u>13</u>
<u>CERTAIN INCOME TAX CONSIDERATIONS</u>	<u>13</u>

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is part of a registration statement that we filed with the Securities and Exchange Commission (“SEC”), utilizing a “shelf” registration process. Under the shelf registration process, we may from time to time sell our common shares having an aggregate offering price of up to \$3,701,931 under this prospectus supplement and the accompanying prospectus at prices and on terms to be determined by market conditions at the time of the offering.

Before buying any of the common shares that we are offering, we urge you to carefully read this prospectus supplement and all of the information incorporated by reference herein and therein, as well as the additional information described under the headings “*Where You Can Find More Information*” and “*Incorporation of Certain Documents by Reference*.” These documents contain important information that you should consider when making your investment decision.

We provide information to you about this offering of our common shares 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, which provides general information, some of which may not apply to this offering. Generally, when we refer to this “prospectus,” we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying base prospectus, you should rely on this prospectus supplement. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in any document incorporated by reference in this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in this prospectus supplement — the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. Neither we nor Wainwright have authorized anyone to provide any information or to make any representations other than those contained in this prospectus supplement and the accompanying prospectus, the documents incorporated by reference herein or therein or in any free writing prospectuses prepared by us or on our behalf or to which we have referred you. We are not, and Wainwright is not, making an offer to sell these securities in any jurisdiction where the offer or sale thereof is not permitted.

We are not offering to sell, or seeking offers to buy, common shares in Canada or over or through the facilities of the TSXV or any other exchange or market in Canada.

The distribution of this prospectus and the offering of common shares in certain jurisdictions may be restricted by law. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus and the documents incorporated into each by reference is accurate only as of the respective dates of the applicable documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

Market data and certain industry forecasts used in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein or therein were obtained from market research, publicly available information and industry publications. We believe that these sources are generally reliable, but the accuracy and completeness of this information is not guaranteed. We have not independently verified such information, and we do not make any representation as to the accuracy of such information.

Unless otherwise indicated in this prospectus supplement and the accompanying prospectus all dollar amounts and references to “\$” are to U.S. dollars and references to “C\$” are to Canadian dollars. This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein contain translations of some Canadian dollar amounts into U.S. dollars solely for your convenience. On November 28, 2023, the Bank of Canada daily rate of exchange was \$1.00 = C\$1.3581.

In this prospectus supplement and the accompanying prospectus, unless the context otherwise requires, references to “we,” “us,” “our” or similar terms, as well as references to “XORTX” or the “Company” refer to XORTX Therapeutics Inc., either alone or together with our subsidiaries.

This prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein include references to trade names and trademarks of other companies, which trade names and trademarks are the property of their respective owners.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, contain certain statements that are “forward-looking statements” within the meaning of the U.S. Private Securities Litigation Reform Act and applicable securities laws. All statements contained herein that are not clearly historical in nature are forward-looking, and the words “anticipate,” “believe,” “expect,” “estimate,” “may,” “will,” “could,” “leading,” “intend,” “contemplate,” “shall,” and similar expressions are generally intended to identify forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, performance or achievements to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements. These forward-looking statements include, among other things, statements about:

- our ability to obtain additional financing;
- the accuracy of our estimates regarding expenses, future revenues and capital requirements;
- the success and timing of our preclinical studies and clinical trials;
- our ability to obtain and maintain regulatory approval of “XORLO™,” our proprietary formulation of oxypurinol for use in our XRx-008 program to treat autosomal dominant polycystic kidney disease (“ADPKD”), and any other product candidates we may develop, and the labeling under any approval we may obtain;
- regulatory approvals and other regulatory developments in the United States and other countries;
- the performance of third-party manufacturers and contract research organizations;
- our plans to develop and commercialize our product candidates;
- our plans to advance research in other kidney disease applications;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- the successful development of our sales and marketing capabilities;
- the potential markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of any future products;
- the success of competing drugs that are or become available; and
- the loss of key scientific or management personnel.

All forward-looking statements reflect our beliefs and assumptions based on information available at the time the assumption was made. These forward-looking statements are not based on historical facts but rather on management’s expectations regarding future activities, results of operations, performance, future capital and other expenditures (including the amount, nature and sources of funding thereof), competitive advantages, business prospects and opportunities.

By their nature, forward-looking statements involve numerous assumptions, inherent risks and uncertainties, both general and specific, known and unknown, that contribute to the possibility that the predictions, forecasts, projections or other forward-looking statements will not occur. In evaluating forward-looking statements, readers should specifically consider various factors, including the risks outlined under the heading “*Risk Factors*” in this prospectus supplement, the accompanying prospectus, and in the documents incorporated by reference herein. Some of these risks and assumptions include, among others:

- the availability of capital to fund planned expenditures;
- prevailing regulatory, tax and environmental laws and regulations;
- the ability to secure necessary personnel, equipment, supplies and services;
- our ability to manage our growth effectively;
- the absence of material adverse changes in our industry or the global economy;

- trends in our industry and markets;
- our ability to maintain good business relationships with our strategic partners;
- our ability to comply with current and future regulatory standards;
- our ability to protect our intellectual property rights;
- our continued compliance with third-party license terms and the non-infringement of third-party intellectual property rights;
- our ability to manage and integrate acquisitions; and
- our ability to raise sufficient debt or equity financing to support our continued growth.

Although the forward-looking statements contained in this prospectus supplement and the accompanying prospectus are based upon what our management believes to be reasonable assumptions, we cannot assure you that actual results will be consistent with these forward-looking statements.

Any forward-looking statements represent our estimates only as of the date of this prospectus supplement and should not be relied upon as representing our estimates as of any subsequent date. We undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events, except as may be required by applicable securities laws.

You should read carefully the risk factors described in this prospectus supplement and the documents incorporated by reference in this prospectus supplement for a description of certain risks that could, among other things, cause actual results to differ from these forward-looking statements.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights key aspects of this offering and certain information contained elsewhere in this prospectus supplement and the documents incorporated by reference. This summary is not complete and does not contain all of the information that may be important to you or that you should consider before investing in our common shares. You should read carefully the other information included and incorporated by reference in this prospectus supplement and the accompanying prospectus before investing in our common shares. You should pay special attention to the risks and uncertainties identified under the captions "Risk Factors," "Cautionary Note Regarding Forward-Looking Statements" and elsewhere in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein or therein, including our most recent Annual Report on Form 20-F, when determining whether an investment in our common shares is appropriate for you.

Overview

We are a late-stage clinical pharmaceutical company focused on identifying, developing and potentially commercializing therapies to treat progressive kidney disease modulated by aberrant purine and uric acid metabolism in orphan (rare) disease indications such as autosomal dominant polycystic kidney disease ("ADPKD") and type 2 diabetic nephropathy ("T2DN"), as well as acute kidney injury ("AKI") associated with respiratory virus infection.

Our focus is on developing three therapeutic product candidates to:

- slow or reverse the progression of chronic kidney disease in patients at risk of end stage kidney failure;
- address the immediate need of individuals facing AKI associated with respiratory virus infection; and
- Treat patients with type 2 diabetic nephropathy.

We are also looking to identify other opportunities where our existing and new intellectual property can be leveraged to address health issues.

We believe that our technology is underpinned by well-established research and insights into the underlying biology of aberrant purine metabolism, its health consequences, and of oxypurinol, a uric acid lowering agent that works by effectively inhibiting xanthine oxidase. We are developing innovative product candidates that include new or existing drugs that can be adapted to address different disease indications where aberrant purine metabolism and/or elevated uric acid is a common denominator, including polycystic kidney disease, pre-diabetes, insulin resistance, metabolic syndrome, diabetes, diabetic nephropathy, and infection. Oxypurinol, and our proprietary pipeline-in-a-product strategy supported by our intellectual property, established exclusive manufacturing agreements, and proposed clinical trials with experienced clinicians, are focused on building a pipeline of assets to address the unmet medical needs for patients with a variety of serious or life-threatening diseases:

- XRx-008, a program for the treatment of ADPKD;
- XRx-101, a program to treat AKI associated with severe respiratory infection and associated health consequences; and
- XRx-225, a program for the treatment of T2DN.

At XORTX, we aim to redefine the treatment of kidney diseases by developing medications to improve the quality-of-life of patients with life threatening diseases by modulating aberrant purine and uric acid metabolism, including lowering elevated uric acid as a therapy.

Our Proprietary Therapeutic Programs

Our expertise and understanding of the pathological effects of aberrant purine metabolism combined with our understanding of uric acid lowering agent structure and function, has enabled the development of our proprietary therapeutic platforms. These are a complementary suite of therapeutic formulations

designed to provide unique solutions for acute and chronic disease. Our therapeutic platforms can be used alone, or in combination, with synergistic activity to develop a multifunctional tailored approach to a variety of disease entities that can address disease in multiple body systems through management of chronic or acute hyperuricemia, immune modulation, and metabolic disease. We continue to leverage these therapeutic platforms to expand our pipeline of novel and next generation drug-based product candidates that we believe could represent significant improvements to the standard of care in multiple acute and chronic cardiovascular diseases and specifically kidney disease.

We believe our in-house drug design and formulation capabilities confer a competitive advantage to our therapeutic platforms and are ultimately reflected in our programs. Some of these key advantages are:

Highly modular and customizable

Our platforms can be combined in multiple ways and this synergy can be applied to address acute, intermittent or chronic disease progression. For example, our XRx-101 program for AKI is designed to produce rapid suppression of hyperuricemia then maintain purine metabolism at a low level during viral infection and target management of acute organ injury. Our XRx-008 program is designed for longer term stable chronic oral dosing of xanthine oxidase inhibitors. We believe the capabilities of our formulation technology allow us to manage the unique challenges of cardiovascular and renal disease by modulating, purine metabolism, inflammatory and oxidative state.

Fit-for-purpose

Our platforms can also be utilized to engineer new chemical entities and formulations of those agents that have enhanced properties. For example, our XRx-225 product candidate program, some of the intellectual property for which we license from third parties, represents a potential new class of xanthine oxidase inhibitor with a targeted design to enhance anti-inflammatory activity. The capability of tailoring the potential therapeutic benefit of this class of new agents permits us to identify targets and disease that we wish to exploit and then through formulation design optimize those small molecules and proprietary formulations to maximize potentially clinically meaningful therapeutic effect.

Readily scalable and transferable

Our in-house small molecule and formulations design expertise is positioned to create a steady succession of product candidates that are scalable, efficient to manufacture (by us or a partner or contract manufacturing organization), and produce high production and high purity active pharmaceutical drug product. We believe this will provide a competitive advantage, new intellectual property and opportunity to provide first-in-class products that target unmet medical needs and clinically meaningful quality of life.

Our team's expertise in uric acid lowering agents, specifically in the development and use of xanthine oxidase inhibitors, has enabled the development of our therapeutic product candidates to treat the symptoms of, and potentially delay the progression of ADPKD, AKI due to respiratory virus infection, and T2DN. There is no guarantee that the U.S. Food and Drug Administration ("FDA") will approve our proposed uric acid lowering agent product candidates for the treatment of kidney disease or the health consequences of diabetes.

Product Candidate Pipeline

Our lead product candidates are XRx-008, XRx-101, and XRx-225. XRx-008 is in preparations for a late stage Phase 2/3 registration clinical trial, the last stage of clinical development before application for FDA approval. Our XRx-101 program is advancing toward preparing for a "bridging" pharmacokinetic study for the Company's Phase 3 clinical trial to potentially slow or reverse acute kidney disease in hospitalized individuals with respiratory virus infection. XRx-225 is at the non-clinical stage and advancing toward the clinical development stage.

Products

Our most advanced development program, XRx-008, sometimes referred to by its trademarked name XORLO™, is a late clinical stage program focused on demonstrating the potential of our novel product

candidate for ADPKD. XRx-008 is the development name given to XORTX's proprietary oral formulation of oxypurinol, and shows increased oral bioavailability compared to oxypurinol alone.

We are also developing a second proprietary combination product composed of a uric acid lowering agent administered intravenously, followed by a xanthine oxidase inhibitor — XRx-101 —, for use in treating patients hospitalized with respiratory virus infection and accompanying hyperuricemia with associated AKI.

We are currently evaluating xanthine oxidase inhibitor candidates for the XRx-225 program to potentially treat T2DN as well as developing new chemical entities to address the large unmet medical need.

Recent Developments

On January 3, 2023, we announced the submission of a Patent Cooperation Treaty patent application seeking international patent protection for the patent entitled "Compositions and Methods for Diagnosis, Treatment and Prevention of Kidney Disease".

On February 1, 2023, we announced the submission of an Orphan Drug Designation ("ODD") Request to the FDA for the XRx-008 program and specifically for XORLO™ for the treatment of ADPKD.

On March 14, 2023, we announced the submission of a Type D meeting request to the FDA and a response setting the date for a virtual meeting on May 1, 2023. A Type D meeting provides an opportunity to discuss with FDA a narrow set of issues on a shorter timeline than with other meeting types. Additionally, a revised clinical trial protocol for XRx-OXY-301, a data update from the XRx-OXY-101 PK Clinical Trial as well as a description of future clinical development program plans for XORLO™ for the treatment of ADPKD were submitted.

On April 21, 2023, we announced the grant of an ODD for oxypurinol.

On May 4, 2023, we announced completion of a positive and constructive Type D meeting with the FDA which resulted in the identification of additional clinical endpoints potentially available for accelerated approval and further understanding of the FDA expectations for the accelerated approval of XORLO™ for the treatment of ADPKD. The FDA Type D meeting was conducted to discuss with the agency the details of the accelerated approval process, a clinical trial protocol for the XRx-OXY-201 study, and proposed future clinical development program plans for XORLO™, XORTX's proprietary oxypurinol formulation, for the treatment of ADPKD. The outcomes of the meeting included: (1) increased clarity regarding accelerated approval endpoints that would qualify for a new drug application ("NDA"), leading to marketing approval of XORLO™ for ADPKD; (2) Phase 3 clinical trial parameters such as duration of treatment period required, follow up periods for subjects recruited into the trial and preferred statistical analysis methods, including the optimal information needed by the FDA in their decision-making process; (3) XORTX will now choose its primary clinical endpoint(s) and development strategy based on ongoing discussions with prospective partners for the asset; and (4) XORTX continues to assess the value of initiating and pursuing a special protocol assessment with the FDA for the XRx-008 clinical program and to further de-risk the development program for XORLO™ for the treatment of ADPKD.

On August 29, 2023, we announced that we had submitted an ODD application for XORLO™ to the European Medicines Agency (the "EMA"). The "orphan-drug designation request is for the use of XORTX's patented unique proprietary formulation of oxypurinol — XORLO™ — for the treatment of ADPKD. The EMA's COMP (Committee for Orphan Medicinal Products) office, will review this initial application package and provide feedback and a decision, which is expected in December of this year. The EMA ODD submission follows on receipt of ODD status granted by the FDA in April 2023. Benefits of EMA ODD designation include reduced fees for protocol assistance, market authorization applications and annual fees for authorized medicines; automatic access to centralized procedure for EMA marketing authorization, access to research grants, a simplified approval process and 10 years of market exclusivity.

Company Information

We were incorporated under the laws of Alberta, Canada on August 24, 2012, under the name ReVasCor Inc. and were continued under the Canada Business Corporations Act on February 27, 2013,

under the name of XORTX Pharma Corp. Upon completion of a reverse take-over transaction on January 10, 2018, with APAC Resources Inc., a company incorporated under the laws of British Columbia, we changed our name to “XORTX Therapeutics Inc.” and XORTX Pharma Corp. became a wholly owned subsidiary.

Our registered office is located at 3710 – 33rd Street NW, Calgary, Alberta, Canada T2L 2M1 and our telephone number is (403) 455-7727. Our website address is www.xortx.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Implications of Being an Emerging Growth Company

As a company with less than \$1.235 billion in revenue during our last fiscal year, we qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups (JOBS) Act. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. These provisions include:

- reduced executive compensation disclosure;
- exemptions from the requirement to hold a non-binding advisory vote on executive compensation, including golden parachute compensation; and
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002.

We may take advantage of these provisions until we are no longer an emerging growth company. We would cease to be an emerging growth company upon the earlier to occur of: (1) the last day of our fiscal year following the fifth anniversary of the completion of this offering; (2) the last day of the fiscal year in which we have total annual gross revenue of \$1.235 billion or more; (3) the date on which we have issued more than \$1.0 billion in nonconvertible debt during the previous three years; or (4) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We have elected not to take advantage of the extended transition period allowed for emerging growth companies for complying with new or revised accounting guidance as allowed by Section 107 of the JOBS Act and Section 7(a)(2)(B) of the Securities Act.

We report under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), as a non-U.S. company with foreign private issuer status. Even after we no longer qualify as an emerging growth company, as long as we continue to qualify as a foreign private issuer under the Exchange Act, we will be exempt from certain provisions of the Exchange Act that are applicable to U.S. domestic public companies, including:

- the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations with respect to a security registered under the Exchange Act;
- the sections of the Exchange Act requiring insiders to file public reports of their share ownership and trading activities and liability for insiders who profit from trades made in a short period of time; and
- the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q containing unaudited financial statements and other specified information, and current reports on Form 8-K upon the occurrence of specified significant events, although we report our results of operations on a quarterly basis under the Canadian securities laws.

Both foreign private issuers and emerging growth companies are also exempt from certain more stringent executive compensation disclosure rules. Thus, even if we no longer qualify as an emerging growth company, but remain a foreign private issuer, we will continue to be exempt from the more stringent compensation disclosures required of companies that are neither an emerging growth company nor a foreign private issuer.

We would cease to be a foreign private issuer at such time as more than 50% of our outstanding voting securities are held by U.S. residents, and any one of the following three circumstances applies: (i) the majority of our executive officers or directors are U.S. citizens or residents, (ii) more than 50% of our assets are located in the United States or (iii) our business is administered principally in the United States.

In this prospectus, we have taken advantage of certain of the reduced reporting requirements as a result of being an emerging growth company and a foreign private issuer. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold equity securities.

THE OFFERING

The following summary contains basic information about the offering and is not intended to be complete. It does not contain all the information that is important to you. You should carefully read the entire prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein before making an investment decision.

Issuer	XORTX Therapeutics Inc.
Common shares offered by us	Shares having an aggregate offering price of up to \$3,701,931.
Common shares to be outstanding following the offering	Up to 3,232,825 shares, based on 1,998,848 common shares outstanding as of November 28, 2023 and assuming sales of 1,233,976 of our common shares in this offering at an offering price of \$3.00 per share, which was the last reported sale price of our common shares on the Nasdaq Capital Market on November 28, 2023. The actual number of shares issued will vary depending on the sale price under this offering.
Plan of distribution	An “at the market offering” within the meaning of Rule 415(a)(4) under the Securities Act that may be made from time to time on Nasdaq, the existing U.S. trading market for our common shares, through our sales agent, Wainwright. See “ <i>Plan of Distribution</i> .”
Use of proceeds	We intend to use the net proceeds from the sale of our common shares pursuant to this offering, if any, together with our existing cash and cash equivalents, for working capital and general corporate purposes. See “ <i>Use of Proceeds</i> ” on page S-16 .
Risk factors	Investing in our common shares involves risks. See “ <i>Risk Factors</i> ” beginning on page S-11 of this prospectus supplement, as well as those risks and uncertainties identified in the documents incorporated by reference herein or therein, including our most recent Annual Report on Form 20-F.
Nasdaq symbol	XRTX
TSXV symbol	XRTX
Income tax considerations	The common shares will be subject to special and complex tax rules for U.S. taxpayers. Holders are urged to consult their tax advisors with respect to the U.S. federal, state, local and foreign tax consequences of purchasing, owning and disposing of the common shares. See “ <i>Certain U.S. Federal Income Tax Considerations</i> ” on page S-22 of this prospectus supplement.

The number of common shares to be outstanding immediately after this offering is 3,232,825, which is based on 1,998,848 common shares outstanding as of November 28, 2023 and excludes:

- 1,175,508 shares issuable upon exercise of outstanding warrants; and
- 113,671 shares issuance upon exercise of outstanding options.

On November 13, 2023, we implemented a reverse split of our common shares on a nine to one (9:1) basis, with post-reverse split trading on the TSXV and Nasdaq commencing on November 14, 2023. All share information in this prospectus supplement takes into account the reverse share split, unless otherwise noted.

No sales of our common shares under this prospectus supplement will be made in Canada or over or through the facilities of the TSXV or any other exchange or market in Canada.

RISK FACTORS

Investing in our common shares is speculative and involves a high degree of risk. The following risk factors, as well as risks currently unknown to us, could materially adversely affect our future business, operations and financial condition and could cause them to differ materially from the estimates described in forward-looking information relating to us, or our business, property or financial results, each of which could cause purchasers of our common shares to lose part or all of their investment. In addition to the other information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, prospective investors should carefully consider the factors set out under “Risk Factors” in the accompanying prospectus and our [Annual Report on Form 20-F for the year ended December 31, 2022](#) and the factors set out below in evaluating our company and its business before making an investment in our common shares.

Risks Relating to This Offering

If we fail to meet all applicable Nasdaq Capital Market requirements and the Nasdaq Stock Market LLC determines to delist our common shares, the delisting could adversely affect the market liquidity of our common shares, impair the value of your investment and harm our business.

Our common shares are currently listed on the Nasdaq Capital Market. In order to maintain that listing, we must satisfy minimum financial and other requirements. While we are currently in compliance with these requirements, in the past we have received notices from the Listing Qualifications Department of the Nasdaq Stock Market LLC indicating that the bid price for our common shares had, for 30 consecutive trading days, closed below the minimum \$1.00 per share required for continued inclusion on the Nasdaq Capital Market under Nasdaq Listing Rule 5550(a)(2).

Though we are currently in compliance with the continued listing requirements of the Nasdaq capital market, there can be no guarantee that we will continue to meet the bid price or other financial requirements in the future. If we fail to continue to meet all applicable Nasdaq Capital Market requirements in the future and Nasdaq determines to delist our common shares, the delisting could substantially decrease trading in our common shares and adversely affect the market liquidity of our common shares; adversely affect our ability to obtain financing on acceptable terms, if at all, for the continuation of our operations; and harm our business. You may be unable to sell your common shares in the United States unless a market can be established or sustained. Additionally, the market price of our common shares may decline further and shareholders may lose some or all of their investment.

We will have broad discretion to use the net proceeds from this offering and the investment of these proceeds may not yield a favorable return. We may invest the proceeds of this offering in ways with which investors disagree.

Our management team will have broad discretion in the application of the net proceeds from this offering and could spend or invest the proceeds in ways with which our shareholders disagree. Accordingly, investors will need to rely on our management team’s judgment with respect to the use of these proceeds. We intend to use the proceeds from this offering in the manner described under “Use of Proceeds.” However, the failure by management to apply these funds effectively could negatively affect our ability to operate and grow our business.

We cannot specify with certainty all of the particular uses for the net proceeds to be received from this offering. Accordingly, we will have broad discretion in using these proceeds. Until the net proceeds are used, they may be placed in investments that do not produce significant income or that may lose value.

You may experience immediate and substantial dilution in the book value per share of the common shares you purchase.

Given that the price per share of our common shares being offered is expected to be higher than the book value per share of our common shares, you may suffer substantial dilution in the net tangible book value of the common shares you purchase in this offering. See the section entitled “Dilution” below for a more detailed discussion of the dilution you will incur if you purchase common shares 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 of our common shares or other securities convertible into or exchangeable for our common shares. We cannot assure you that we will be able to sell common shares or other securities in any other offering at a price per common share that is equal to or greater than the price per common share paid by investors in this offering, and investors purchasing common shares or other securities in the future could have rights superior to existing shareholders. The price per common share at which we sell additional common shares or other securities convertible into or exchangeable for our common shares in future transactions may be higher or lower than the price per common share in this offering.

The trading price of our common shares could be highly volatile, and purchasers of our common shares could incur substantial losses.

The trading price of our common shares is likely to be volatile. The stock market in general and the market for shares of biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price for our common shares may be influenced by those factors discussed in this “*Risk Factors*” section and in similar sections incorporated by reference herein, as well as other factors, including:

- the commencement, enrollment, or results of our current and future preclinical studies and clinical trials, and the results of trials of our competitors or those of other companies in our market sector;
- regulatory approval of our product candidates, or limitations to specific label indications or patient populations for its use, or changes or delays in the regulatory review process;
- regulatory developments in the United States and foreign countries;
- changes in the structure of healthcare payment systems, especially in light of current reforms to the United States healthcare system;
- the success or failure of our efforts to acquire, license, or develop additional product candidates;
- innovations or new products developed by us or our competitors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, or capital commitments;
- manufacturing, supply or distribution delays or shortages;
- any changes to our relationship with manufacturers, suppliers, licensors, future collaborators, or other strategic partners;
- achievement of expected product sales and profitability;
- variations in our financial results or those of companies that are perceived to be similar to us;
- market conditions in the biopharmaceutical sector and issuance of securities analysts’ reports or recommendations;
- trading volume of our common shares;
- an inability to obtain additional funding;
- sales of our common shares by insiders and shareholders;
- general economic, geopolitical, industry, and market conditions, or other events or factors, many of which are beyond our control;
- additions or departures of key personnel;
- intellectual property, product liability, or other litigation against us; and
- general economic, industry and market conditions, including, but not limited to, with respect to the financial markets in the United States and worldwide resulting from inflation and the conflict between Russia and Ukraine.

These broad market and industry factors may decrease the market price of our common shares, regardless of our actual operating performance.

In addition, in the past, shareholders have initiated class action lawsuits against biopharmaceutical companies following periods of volatility in the market prices of these companies' shares. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources, which could have a material adverse effect on our business, financial condition, and results of operations.

Sales of a substantial number of our common shares in the public market could cause the trading price of our common shares to fall.

Sales of a substantial number of our common shares in the public market could occur at any time. If our shareholders sell, or the market perceives that our shareholders intend to sell, substantial amounts of our common shares in the public market, the market price of our common shares could decline significantly.

Shares issued upon the exercise of stock options outstanding under our stock option plan or pursuant to future awards granted under that plan will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules and Rule 144 under the Securities Act.

The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to deliver a placement notice to Wainwright at any time throughout the term of the Sales Agreement. The number of shares that are sold by Wainwright after delivering a placement notice will fluctuate based on the market price of our common shares during the sales period and limits we set with Wainwright. Because the price per share of each share sold will fluctuate based on the market price of our common shares during the sales period, it is not possible at this stage to predict the number of shares that will be ultimately issued.

The common shares offered hereby will be sold in "at the market offerings," and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and accordingly may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand and the terms of the Sales Agreement, to vary the timing, prices and number of shares sold in this offering. In addition, subject to the final determination by our board of directors or any restrictions we may place in any applicable placement notice, there is no minimum or maximum sales price for shares to be sold in this offering. Investors may experience a decline in the value of the shares they purchase in this offering as a result of sales made at prices lower than the prices they paid.

As a foreign private issuer, we are subject to different U.S. securities laws and rules than a domestic U.S. issuer, which may limit the information publicly available to its U.S. shareholders.

We are a foreign private issuer under applicable U.S. federal securities laws and, therefore, are not required to comply with all of the periodic disclosure and current reporting requirements of the Exchange Act and related rules and regulations. As a result, we do not file the same reports that a U.S. domestic issuer would file with the SEC, although we will be required to file with or furnish to the SEC the continuous disclosure documents that we are required to file in Canada under Canadian securities laws. In addition, our officers, directors and principal shareholders are exempt from the reporting and "short swing" profit recovery provisions of Section 16 of the Exchange Act. Therefore, our shareholders may not know on as timely a basis when our officers, directors and principal shareholders purchase or sell our securities as the reporting periods under the corresponding Canadian insider reporting requirements are longer. In addition, as a foreign private issuer, we are exempt from the proxy rules under the Exchange Act.

We may lose our foreign private issuer status in the future, which could result in significant additional costs and expenses to us.

In order to maintain our current status as a foreign private issuer, a majority of our common shares must be either directly or indirectly owned of record by non-residents of the United States unless we also satisfy one of the additional requirements necessary to preserve this status. We may in the future lose our foreign private issuer status if a majority of our common shares are owned of record in the United States and we fail to meet the additional requirements necessary to avoid loss of foreign private issuer status. The regulatory and compliance costs to us under U.S. federal securities laws as a U.S. domestic issuer may be significantly more than the costs we incur as a Canadian foreign private issuer eligible to use the multijurisdictional disclosure system (“MJDS”) adopted by the United States and Canada. If we are not a foreign private issuer, we would not be eligible to use the MJDS or other foreign issuer forms and would be required to file periodic and current reports and registration statements on U.S. domestic issuer forms with the SEC, which are more detailed and extensive than the forms available to a foreign private issuer.

U.S. holders of the Company’s shares may suffer adverse tax consequences if we are characterized as a passive foreign investment company.

The rules governing “passive foreign investment companies,” (“PFICs”) can have adverse effects on U.S. Holders (as defined in “*Certain U.S. Federal Income Tax Considerations*” below) of the Company’s shares for U.S. federal income tax purposes. Generally, if, for any taxable year, at least 75% of our gross income is passive income, or at least 50% of the value of our assets (generally, using a quarterly average) is attributable to assets that produce passive income or are held for the production of passive income (including cash), we would be characterized as a PFIC for U.S. federal income tax purposes. The determination of whether we are a PFIC, which must be made annually after the close of each taxable year, depends on the particular facts and circumstances and may also be affected by the application of the PFIC rules, which are subject to differing interpretations. Our status as a PFIC will depend on the composition of our income and the composition and value of our assets (including goodwill and other intangible assets), which will be affected by how, and how quickly, we spend any cash that is raised in an offering or in any other subsequent financing transaction. Moreover, our ability to earn specific types of income that will be treated as non-passive for purposes of the PFIC rules is uncertain with respect to future years. We believe we were classified as a PFIC during the taxable year ended December 31, 2022. Based on current business plans and financial expectations, we may be a PFIC for our taxable year ending December 31, 2023, or future taxable years, and we cannot provide any assurances regarding our PFIC status for any current or future taxable year.

If we are a PFIC, a U.S. Holder would be subject to adverse U.S. federal income tax consequences, such as ineligibility for certain preferred tax rates on capital gains or on actual or deemed dividends, interest charges on certain taxes treated as deferred, and additional reporting requirements under U.S. federal income tax laws and regulations. Investors should consult their own tax advisors regarding the potential consequences if we were or were to become a PFIC, including the availability, and advisability, of, and procedure for making certain tax elections that may in certain circumstances mitigate possible adverse U.S. federal income tax consequences that may result from PFIC status.

As we are a British Columbia company, it may be difficult for U.S. shareholders to effect service on us or to realize on judgments obtained in the United States.

We are incorporated under the laws of British Columbia, Canada, most of our directors and officers are residents of Canada, and most or all of our assets and the assets of such persons are located outside the United States. Consequently, it may be difficult for U.S. investors to effect service of process within the U.S. upon us or upon such persons who are not residents of the U.S., or to realize in the U.S. upon judgments of U.S. courts predicated upon civil liabilities under U.S. securities laws. A judgment of a U.S. court predicated solely upon such civil liabilities may be enforceable in Canada by a Canadian court if the U.S. court in which the judgment was obtained had jurisdiction, as determined by the Canadian court, in the matter. There is substantial doubt whether an original action could be brought successfully in Canada against any of such persons or us predicated solely upon such civil liabilities.

We can give no assurances that we will ever pay any dividends on our common shares, and any return to investors is expected to come, if at all, only from potential increases in the price of our common shares.

We have never paid dividends on our common shares and have no intention of paying any dividends in the near future. Whether we pay any dividends in the future will depend on our financial condition, results of operations, and other factors that we will consider. Any return to investors is expected to come, if at all, only from potential increases in the price of our common shares. There is no guarantee that our common shares will appreciate in value or even maintain the price at which shareholders have purchased them.

USE OF PROCEEDS

The amount of net proceeds from this offering will depend upon the number of our common shares sold and the market prices at which they are sold. If the full amount of \$3,701,931 covered by this prospectus supplement is sold, the net proceeds to us will be \$3,354,794. Because there is no minimum offering amount required as a condition of this offering, the actual total public offering amount, commissions and net proceeds to us, if any, are not determinable at this time. There can be no assurance that we will be able to sell any shares under or fully utilize the Sales Agreement as a source of financing.

We intend to use the net proceeds from the sale of our common shares pursuant to this offering, if any, together with our existing cash and cash equivalents, for (i) ongoing research and development activities; (ii) working capital and general corporate purposes; and (iii) investment in other development programs.

Our management will have broad discretion in the application of the net proceeds, if any, from this offering, and the amounts and timing of our actual expenditures will depend on numerous factors, including those listed under the heading “*Risk Factors*” in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein. We therefore cannot estimate with certainty the amount of net proceeds to be used for the purposes described above. While we intend to spend the net proceeds of the offering as stated above, there may be circumstances where, for sound business reasons, a re-allocation of funds may be necessary or advisable.

CAPITALIZATION AND INDEBTEDNESS

The following table presents the number of our issued and outstanding common shares and our consolidated cash and cash equivalents and capitalization as at September 30, 2023 on an actual basis and on an as adjusted basis assuming that an aggregate of 1,233,976 common shares are sold at a price of \$3.00, being the last reported sale price of our common shares on Nasdaq on November 28, 2023, for aggregate gross proceeds of \$3,701,931. The adjustments present the expected impact on the number of our issued and outstanding common shares, our consolidated cash and cash equivalents and our capitalization as at September 30, 2023 of the issuances described above and after the payment by us of Wainwright's compensation and our estimated transaction expenses. On November 13, 2023, we implemented a reverse split of our common shares on a nine to one (9:1) basis, with post-reverse split trading on the TSXV and Nasdaq commencing on November 14, 2023. The table below is presented on post-reverse split basis. There has been no material change to our share and loan capital since September 30, 2023. In addition, as at September 30, 2023, we had no outstanding long-term third-party debt.

The information below has been derived from and should be read in conjunction with, and is qualified in its entirety by, our interim consolidated financial statements as at and for the nine months ended September 30, 2023 and management's discussion and analysis thereon, incorporated by reference into this prospectus supplement. Figures are in thousands of U.S. dollars except share data.

	As at September 30, 2023	
	Actual	As Adjusted ⁽¹⁾
Number of common shares issued and outstanding	1,999 ⁽²⁾	3,233 ⁽²⁾
Cash and cash equivalents	\$ 5,069	\$ 8,350
Deposits and other receivables	\$ 157	\$ 157
Intangibles and other	\$ 1,414	\$ 1,414
Total assets	\$ 6,640	\$ 9,921
Liabilities	\$ 554	\$ 554
Shareholders' equity:		
Share capital	\$17,057	\$ 20,337
Other capital	\$ 9,612	\$ 9,612
Obligation to issue shares	\$ 25	\$ 25
Deficit	\$(20,554)	\$(20,554)
Accumulated other comprehensive loss	\$ (53)	\$ (53)
Total shareholders' equity and total capitalization	\$ 6,086	\$ 9,367
Total liabilities and equity	\$ 6,640	\$ 9,921

- (1) As adjusted assumes and gives effect to the issuance of 1,233,976 common shares to be offered from time to time under this prospectus supplement at an assumed price of \$3.00 per common share (being the last reported sale price of our common shares on Nasdaq on November 28, 2023) and the payment by us of Wainwright's compensation and our estimated transaction expenses. In light of the continuous distribution nature of this at-the-market offering, there can be no assurance that we will in fact issue all or any number of the 1,233,976 common shares offered under this prospectus supplement or, if we do issue any common shares under this prospectus supplement, that they will be issued at \$3.00 per share. The figures provided in the "as adjusted" column are thus solely for illustrative purposes.
- (2) The number of our common shares that will be outstanding both before and immediately after this offering is based on 1,998,848 shares outstanding as of September 30, 2023 and excludes as of such date:
 - 1,175,508 shares issuable upon exercise of outstanding warrants; and
 - 113,671 shares issuance upon exercise of outstanding options.
- (3) On November 13, 2023, we implemented a reverse split of our common shares on a nine to one (9:1) basis, with post-reverse split trading on the TSXV and Nasdaq commencing on November 14, 2023. The table above is presented on post-reverse split basis.

DILUTION

If you invest in our common shares, your interest will be diluted to the extent the price per share you pay in this offering exceeds the as adjusted net tangible book value per share of our common shares immediately after you purchase shares in this offering. As of September 30, 2023, our net tangible book value was approximately \$5,914,869, or approximately \$2.96 per share, based on 1,998,848 common shares outstanding as of September 30, 2023. Our net tangible book value per share represents the amount of our total tangible assets reduced by the amount of our total liabilities, divided by the total number of our common shares outstanding as of September 30, 2023.

After giving effect to the sale of our common shares in the assumed aggregate amount of \$3,701,931 at an assumed offering price of \$3.00 per common share, which is the last reported sale price of our common shares on Nasdaq on November 28, 2023, and after deducting estimated offering expenses and commissions payable by us, our as adjusted net tangible book value as of September 30, 2023 would have been \$9.3 million, or \$2.87 per share. This would represent an immediate decrease in net tangible book value of \$0.09 per share to our existing shareholders and an immediate decrease in net tangible book value of \$0.13 per share to new investors in this offering.

The following table illustrates this calculation on a per common share basis:

Assumed public offering price per share	\$3.00
Net tangible book value per share at September 30, 2023	\$2.96
Decrease in net tangible book value per share attributable to the offering	\$0.09
As adjusted net tangible book value per share after giving effect to the offering	\$2.87
Dilution in net tangible book value per share to new investors in this offering	\$0.13

The table above assumes for illustrative purposes that an aggregate of 1,233,976 common shares are sold at a price of \$3.00 per common share, the last reported sale price of our common shares on Nasdaq on November 28, 2023, for aggregate gross proceeds of \$3,701,931 less expenses of \$347,137. The common shares sold in this offering, if any, will be sold from time to time at various prices. An increase of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$3.00 per share shown in the table above, assuming all of our common shares in the aggregate amount of \$3,701,931 are sold at that price, would increase our as adjusted net tangible book value per share after the offering to \$3.03 per share and would increase the dilution in net tangible book value per share from the offering price to new investors in this offering to \$0.47 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$3.00 per share shown in the table above, assuming all of our common shares in the aggregate amount of \$3,701,931 are sold at that price, would decrease our adjusted net tangible book value per share after the offering to \$2.66 per share and would result in an increase in net tangible book value per share from the offering price to new investors in this offering to \$0.16 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only. The dilution per share to new investors purchasing our common shares in this offering will depend on the number and price of our common shares that are sold in this offering.

The number of common shares shown as outstanding in the table above is based on 1,998,848 common shares outstanding as of September 30, 2023 and excludes:

- 1,175,508 shares issuable upon exercise of outstanding warrants on such date; and
- 113,671 shares issuance upon exercise of outstanding options on such date.

To the extent that outstanding warrants or options are converted or exercised or other shares or securities convertible or exercisable into shares are issued, investors purchasing our common shares in this offering may experience further dilution. In addition, we may choose to issue additional common shares, or securities convertible into or exchangeable for common shares, in the future. The issuance of these securities could result in further dilution for investors purchasing our common shares in this offering.

On November 13, 2023, we implemented a reverse split of our common shares on a nine to one (9:1) basis, with post-reverse split trading on the TSXV and Nasdaq commencing on November 14, 2023. The table above is presented on post-reverse split basis.

PRICE RANGE AND TRADING VOLUME

Our common shares are listed on Nasdaq and on TSXV under the symbol “XRTX”. The following table indicates the monthly range of high and low closing prices of a common share and the average daily volumes traded on Nasdaq and on the TSXV during the period beginning on November 1, 2022 and ending on November 28, 2023:

	NASDAQ (\$)			TSXV (CS)		
	High	Low	Volume	High	Low	Volume
2022						
November	1.07	0.76	17,477	1.35	1.00	5,696
December	0.94	0.73	10,805	1.30	0.97	2,187
2023						
January	0.87	0.59	2,538,591	1.65	0.74	36,428
February	0.67	0.56	161,215	0.92	0.76	24,152
March	0.60	0.45	72,415	0.85	0.60	8,789
April	0.77	0.45	163,529	1.18	0.55	47,890
May	0.81	0.67	60,597	1.10	0.86	11,183
June	0.72	0.64	23,414	1.08	0.83	4,829
July	0.80	0.61	52,555	1.11	0.72	12,524
August	0.76	0.54	55,455	0.98	0.68	11,583
September	0.57	0.69	19,375	0.93	0.73	6,288
October	0.64	0.26	5,042,442	1.10	0.33	73,990
November 1-13 ⁽¹⁾	0.36	0.31	327,048	0.51	0.37	20,244
November 14-28 ⁽¹⁾	3.00	2.30	68,075	4.25	3.06	6,538

(1) On November 10, 2023, we implemented a reverse split of our common shares on a nine to one (9:1) basis, with post-reverse split trading on the TSXV and Nasdaq commencing on November 14, 2023.

DESCRIPTION OF SECURITIES

Common Shares

Our articles authorize the issuance of an unlimited number of common shares, without par value. As of November 29, 2023, we had 1,998,848 common shares outstanding, as well as 113,671 common shares issuable pursuant to outstanding stock options, and 1,175,508 common shares issuable upon the exercise of outstanding warrants.

A description of the common shares we are offering pursuant to this prospectus supplement is set forth under the heading “*Description of Share Capital*” starting on page 6 of the accompanying prospectus. The description of our capital shares is a summary and is qualified in its entirety by reference to our articles. For a complete description, you should refer to our articles a copy of which is on file with the SEC.

PLAN OF DISTRIBUTION

We entered into the Sales Agreement with Wainwright on November 29, 2023. Under the terms of the Sales Agreement, we may offer and sell up to \$3,701,931 of our common shares from time to time through Wainwright. Sales of our common shares, if any, under this prospectus supplement and the accompanying prospectus may be made in sales deemed to be “at the market offerings” as defined in Rule 415(a)(4) under the Securities Act, including sales made directly on or through Nasdaq, the existing trading market for our common shares in the United States, sales made to or through a market maker other than on an exchange or otherwise, directly to Wainwright as principal, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or in any other method permitted by law.

We may designate the maximum amount of common shares to be sold through Wainwright on a daily basis or otherwise as we and Wainwright agree and the minimum price per common share at which such common shares may be sold. We may instruct Wainwright not to sell common shares if the sales cannot be effected at or above the price designated by us from time to time. We or Wainwright may suspend the offering of common shares upon notice and subject to other conditions. We are not offering to sell, or seeking offers to buy, common shares in Canada or through the facilities of the TSXV or any other exchange or market in Canada.

We will pay Wainwright a commission, in cash, at a fixed rate of 3.0% of the gross sales price per share sold. Because there is no minimum offering amount required as a condition of this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse Wainwright for certain specified expenses, including the fees and disbursements of Wainwright’s legal counsel in an amount not to exceed \$50,000, in addition to the reimbursement of up to \$2,500 per due diligence update session for the fees of counsel to Wainwright. We estimate that the total expenses for the offering, excluding compensation payable to Wainwright under the terms of the Sales Agreement, will be approximately \$185,078.

Settlement for sales of common shares will occur on the second business day following the date on which any sales are made (or such shorter settlement cycle as may be in effect pursuant to Rule 15c6-1 under the Exchange Act from time to time), or on such other date that is agreed upon by us and Wainwright in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of our common shares as contemplated in the prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Wainwright may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

Wainwright will use its commercially reasonable efforts, consistent with its sales and trading practices, to solicit offers to purchase the common shares under the terms and subject to the conditions set forth in the Sales Agreement. In connection with the sale of the common shares on our behalf, Wainwright will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Wainwright will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to Wainwright against certain civil liabilities, including liabilities under the Securities Act.

The offering of our common shares pursuant to the Sales Agreement will terminate as permitted therein. We may terminate the Sales Agreement at any time upon five (5) business days prior notice.

Wainwright and its affiliates may in the future provide various investment banking, commercial banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees. To the extent required by Regulation M, Wainwright will not engage in any market making activities involving our common shares while the offering is ongoing under this prospectus supplement. This summary of the material provisions of the Sales Agreement does not purport to be a complete statement of its terms and conditions. A copy of the Sales Agreement is filed as an exhibit to our Form 6-K and is incorporated by reference in this prospectus supplement.

The prospectus in electronic format may be made available on a website maintained by Wainwright and Wainwright may distribute the prospectus electronically.

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a general summary of certain U.S. federal income tax considerations applicable to a U.S. Holder (as defined below) arising from and relating to the acquisition, ownership and disposition of common shares.

This summary is for general information purposes only and does not purport to be a complete analysis or listing of all potential U.S. federal income tax considerations that may apply to a U.S. Holder as a result of the acquisition of common shares. In addition, this summary does not take into account the individual facts and circumstances of any particular U.S. Holder that may affect the U.S. federal income tax consequences to such U.S. Holder, including specific tax consequences to a U.S. Holder under an applicable tax treaty. Accordingly, this summary is not intended to be, and should not be construed as, legal or U.S. federal income tax advice with respect to any particular U.S. Holder. This summary does not address the U.S. federal net investment income, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and non-U.S. tax consequences to U.S. Holders of the acquisition, ownership, and disposition of the common shares. In addition, except as specifically set forth below, this summary does not discuss applicable tax reporting requirements. Each U.S. Holder should consult its own tax advisor regarding the U.S. federal, U.S. federal net investment income, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and non-U.S. tax consequences relating to the acquisition, ownership and disposition of the common shares.

No opinion from legal counsel or ruling from the Internal Revenue Service (the “IRS”) has been requested, or will be obtained, regarding the U.S. federal income tax considerations applicable to U.S. Holders as discussed in this summary. This summary is not binding on the IRS, and the IRS is not precluded from taking a position that is different from, and contrary to, the positions taken in this summary. In addition, because the authorities on which this summary is based are subject to various interpretations, the IRS and the U.S. courts could disagree with one or more of the positions taken in this summary.

Scope of this Summary

Authorities

This summary is based on the Internal Revenue Code of 1986, as amended (the “Code”), Treasury Regulations (whether final, temporary, or proposed) promulgated under the Code, published rulings of the IRS, published administrative positions of the IRS and U.S. court decisions, that are in effect and available, as of the date of this document. Any of the authorities on which this summary is based could be changed in a material and adverse manner at any time, and any such change could be applied retroactively. This summary does not discuss the potential effects, whether adverse or beneficial, of any proposed legislation that, if enacted, could be applied on a retroactive or prospective basis.

U.S. Holders

For purposes of this summary, the term “U.S. Holder” means a beneficial owner of the common shares that is for U.S. federal income tax purposes:

- a citizen or individual resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate whose income is subject to U.S. federal income taxation regardless of its source; or
- a trust that (1) is subject to the primary supervision of a court within the United States and the control of one or more U.S. persons for all substantial decisions or (2) has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

U.S. Holders Subject to Special U.S. Federal Income Tax Rules Not Addressed

This summary does not address the U.S. federal income tax considerations applicable to U.S. Holders that are subject to special provisions under the Code, including U.S. Holders that: (a) are tax-exempt

organizations, qualified retirement plans, individual retirement accounts, or other tax-deferred accounts; (b) are financial institutions, underwriters, insurance companies, real estate investment trusts, or regulated investment companies; (c) are brokers or dealers in securities or currencies or U.S. Holders that are traders in securities that elect to apply a mark-to-market accounting method; (d) have a “functional currency” other than the U.S. dollar; (e) own common shares as part of a straddle, hedging transaction, conversion transaction, constructive sale, or other integrated transaction; (f) acquired the common shares in connection with the exercise of employee stock options or otherwise as compensation for services; (g) hold the common shares other than as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment purposes); (h) are partnerships and other pass-through entities (and investors in such partnerships and entities); (i) are subject to special tax accounting rules; (j) own, have owned or will own (directly, indirectly, or by attribution) 10% or more of the total combined voting power or value of our outstanding shares; (k) are U.S. expatriates or former long-term residents of the U.S.; or (l) are subject to taxing jurisdictions other than, or in addition to, the United States. U.S. Holders that are subject to special provisions under the Code, including U.S. Holders described immediately above, should consult their own tax advisors regarding the U.S. federal, U.S. federal net investment income, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and non-U.S. tax consequences relating to the acquisition, ownership and disposition of the common shares.

If an entity or arrangement that is classified as a partnership for U.S. federal income tax purposes holds the common shares, the U.S. federal income tax consequences to such entity or arrangement and the owners of such entity or arrangement generally will depend on the activities of such entity or arrangement and the status of such owners. This summary does not address the tax consequences to any such entity or arrangement or owner. Owners of entities or arrangements that are classified as partnerships for U.S. federal income tax purposes should consult their own tax advisor regarding the U.S. federal income tax consequences arising from and relating to the acquisition, ownership, and disposition of the common shares.

Passive Foreign Investment Company Rules

If we are considered a “passive foreign investment company” within the meaning of Section 1297 of the Code (a “PFIC”) at any time during a U.S. Holder’s holding period, the following sections will generally describe the potentially adverse U.S. federal income tax consequences to U.S. Holders of the acquisition, ownership, and disposition of the common shares.

We believe we were classified as a PFIC during the taxable year ended December 31, 2022. Based on current business plans and financial expectations, we may be a PFIC for our taxable year ending December 31, 2023 or future taxable years. No opinion of legal counsel or ruling from the IRS concerning our status as a PFIC has been obtained or is currently planned to be requested. The determination of whether any corporation was, or will be, a PFIC for a tax year depends, in part, on the application of complex U.S. federal income tax rules, which are subject to differing interpretations. In addition, whether any corporation will be a PFIC for any tax year depends on the assets and income of such corporation over the course of each such tax year and, as a result, our PFIC status for the current year and future years cannot be predicted with certainty as of the date of this document. Accordingly, there can be no assurance that the IRS will not challenge any PFIC determination made by us (or by one of our subsidiaries). Each U.S. Holder should consult its own tax advisor regarding our status as a PFIC and the PFIC status of each non-U.S. subsidiary.

In any year in which we are classified as a PFIC, a U.S. Holder will be required to file an annual report with the IRS containing such information as Treasury Regulations and/or other IRS guidance may require. In addition to penalties, a failure to satisfy such reporting requirements may result in an extension of the time period during which the IRS can assess a tax. U.S. Holders should consult their own tax advisors regarding the requirements of filing such information returns under these rules, including the requirement to file an IRS Form 8621.

We generally will be a PFIC for any tax year in which (a) 75% or more of our gross income for such tax year is passive income (the “**PFIC income test**”) or (b) 50% or more of the value of our assets either produce passive income or are held for the production of passive income, based on the quarterly average of the fair market value of such assets (the “**PFIC asset test**”). “Gross income” generally includes sales revenues less the cost of goods sold, plus income from investments and from incidental or outside operations or sources,

and “passive income” generally includes, for example, dividends, interest, certain rents and royalties, certain gains from the sale of stock and securities, and certain gains from commodities transactions. Active business gains arising from the sale of commodities generally are excluded from passive income if substantially all of a foreign corporation’s commodities are stock in trade or inventory, depreciable property used in a trade or business, or supplies regularly used or consumed in the ordinary course of its trade or business, and certain other requirements are satisfied.

For purposes of the PFIC income test and PFIC asset test described above, if we own, directly or indirectly, 25% or more of the total value of the outstanding shares of another corporation, we will be treated as if we (a) held a proportionate share of the assets of such other corporation and (b) received directly a proportionate share of the income of such other corporation. In addition, for purposes of the PFIC income test and PFIC asset test described above, “passive income” does not include any interest, dividends, rents, or royalties that are received or accrued by us from a “related person” (as defined in Section 954(d)(3) of the Code), to the extent such items are properly allocable to the income of such related person that is not passive income.

Under certain attribution rules, if we are a PFIC, U.S. Holders will be deemed to own their proportionate share of any of our subsidiaries which is also a PFIC (a “Subsidiary PFIC”), and will generally be subject to U.S. federal income tax under the “Default PFIC Rules Under Section 1291 of the Code” discussed below on their proportionate share of any (i) distribution on the shares of a Subsidiary PFIC and (ii) disposition or deemed disposition of shares of a Subsidiary PFIC, both as if such U.S. Holders directly held the shares of such Subsidiary PFIC. Accordingly, U.S. Holders should be aware that they could be subject to tax under the PFIC rules even if no distributions are received and no redemptions or other dispositions of the common shares are made. In addition, U.S. Holders may be subject to U.S. federal income tax on any indirect gain realized on the stock of a Subsidiary PFIC on the sale or disposition of the common shares.

Default PFIC Rules Under Section 1291 of the Code

If we are a PFIC, the U.S. federal income tax consequences to a U.S. Holder of the acquisition, ownership, and disposition of the common shares will depend on whether such U.S. Holder makes a “qualified electing fund” or “QEF” election (a “QEF Election”) or makes a mark-to-market election under Section 1296 of the Code (a “Mark-to-Market Election”) with respect to the common shares. A U.S. Holder that does not make either a QEF Election or a Mark-to-Market Election (a “Non-Electing U.S. Holder”) will be taxable as described below.

A Non-Electing U.S. Holder will be subject to the rules of Section 1291 of the Code with respect to (a) any gain recognized on the sale or other taxable disposition of the common shares and (b) any excess distribution received on the common shares. A distribution generally will be an “excess distribution” to the extent that such distribution (together with all other distributions received in the current tax year) exceeds 125% of the average distributions received during the three preceding tax years (or during a U.S. Holder’s holding period for the common shares, if shorter).

Under Section 1291 of the Code, any gain recognized on the sale or other taxable disposition of the common shares of a PFIC (including an indirect disposition of shares of a Subsidiary PFIC), and any excess distribution received on such common shares (or a distribution by a Subsidiary PFIC to its shareholder that is deemed to be received by a U.S. Holder) must be ratably allocated to each day in a Non-Electing U.S. Holder’s holding period for the common shares. The amount of any such gain or excess distribution allocated to the tax year of disposition or distribution of the excess distribution and to years before the entity became a PFIC, if any, would be taxed as ordinary income (and not eligible for certain preferential tax rates, as discussed below). The amounts allocated to any other tax year would be subject to U.S. federal income tax at the highest tax rate applicable to ordinary income in each such year, and an interest charge would be imposed on the tax liability for each such year, calculated as if such tax liability had been due in each such year. A Non-Electing U.S. Holder that is not a corporation must treat any such interest paid as “personal interest,” which is not deductible.

If we are a PFIC for any tax year during which a Non-Electing U.S. Holder holds the common shares, it will continue to be treated as a PFIC with respect to such Non-Electing U.S. Holder, regardless of whether it ceases to be a PFIC in one or more subsequent tax years. If we cease to be a PFIC, a Non-Electing U.S.

Holder may terminate this deemed PFIC status with respect to the common shares by electing to recognize gain (which will be taxed under the rules of Section 1291 of the Code as discussed above) as if such common shares were sold on the last day of the last tax year for which we were a PFIC.

QEF Election

A U.S. Holder that makes a QEF Election for the first tax year in which its holding period of its common shares begins generally will not be subject to the rules of Section 1291 of the Code discussed above with respect to its common shares. However, a U.S. Holder that makes a QEF Election will be subject to U.S. federal income tax on such U.S. Holder's pro rata share of (a) our net capital gain, which will be taxed as long-term capital gain to such U.S. Holder, and (b) our ordinary earnings, which will be taxed as ordinary income to such U.S. Holder. Generally, "net capital gain" is the excess of (a) net long-term capital gain over (b) net short-term capital loss, and "ordinary earnings" are the excess of (a) "earnings and profits" over (b) net capital gain. A U.S. Holder that makes a QEF Election will be subject to U.S. federal income tax on such amounts for each tax year in which we are a PFIC, regardless of whether such amounts are actually distributed to such U.S. Holder by us. However, for any tax year in which we are a PFIC and have no net income or gain, U.S. Holders that have made a QEF Election would not have any income inclusions as a result of the QEF Election. If a U.S. Holder that made a QEF Election has an income inclusion, such a U.S. Holder may, subject to certain limitations, elect to defer payment of current U.S. federal income tax on such amounts, subject to an interest charge. If such U.S. Holder is not a corporation, any such interest paid will be treated as "personal interest," which is not deductible.

A U.S. Holder that makes a timely QEF Election generally (a) may receive a tax-free distribution from us to the extent that such distribution represents "earnings and profits" that were previously included in income by the U.S. Holder because of such QEF Election and (b) will adjust such U.S. Holder's tax basis in the common shares to reflect the amount included in income or allowed as a tax-free distribution because of such QEF Election. In addition, a U.S. Holder that makes a QEF Election generally will recognize capital gain or loss on the sale or other taxable disposition of common shares.

The procedure for making a QEF Election, and the U.S. federal income tax consequences of making a QEF Election, will depend on whether such QEF Election is timely. A QEF Election will be treated as "timely" for purposes of avoiding the default PFIC rules discussed above if such QEF Election is made for the first year in the U.S. Holder's holding period for the common shares in which we were a PFIC. A U.S. Holder may make a timely QEF Election by filing the appropriate QEF Election documents at the time such U.S. Holder files a U.S. federal income tax return for such year.

A QEF Election will apply to the tax year for which such QEF Election is made and to all subsequent tax years, unless such QEF Election is invalidated or terminated or the IRS consents to revocation of such QEF Election. If a U.S. Holder makes a QEF Election and, in a subsequent tax year, we cease to be a PFIC, the QEF Election will remain in effect (although it will not be applicable) during those tax years in which we are not a PFIC. Accordingly, if we become a PFIC in another subsequent tax year, the QEF Election will be effective and the U.S. Holder will be subject to the QEF rules described above during any subsequent tax year in which we qualify as a PFIC.

However, U.S. Holders should be aware that if we determine that we are a PFIC for this year or any future taxable year, we can make no assurances that we would provide the information necessary for U.S. Holders to make a QEF Election. Thus, U.S. Holders may not be able to make a QEF Election with respect to their common shares.

A U.S. Holder makes a QEF Election by attaching a completed IRS Form 8621, including a PFIC Annual Information Statement, to a timely filed U.S. federal income tax return. However, if we do not provide the required information with regard to us or any of our Subsidiary PFICs, U.S. Holders will not be able to make a QEF Election for such entity and will continue to be subject to the rules of Section 1291 of the Code discussed above that apply to Non-Electing U.S. Holders with respect to the taxation of gains and excess distributions.

Mark-to-Market Election

A U.S. Holder may make a Mark-to-Market Election with respect to the common shares only if such shares are marketable stock. The common shares generally will be "marketable stock" if the common shares

are regularly traded on (a) a national securities exchange that is registered with the SEC, (b) the national market system established pursuant to Section 11A of the U.S. Exchange Act or (c) a foreign securities exchange that is regulated or supervised by a governmental authority of the country in which the market is located, provided that (i) such foreign exchange has trading volume, listing, financial disclosure, and other requirements and the laws of the country in which such foreign exchange is located, together with the rules of such foreign exchange, ensure that such requirements are actually enforced and (ii) the rules of such foreign exchange ensure active trading of listed stocks. If such stock is traded on such a qualified exchange or other market, such stock generally will be considered “regularly traded” for any calendar year during which such stock is traded, other than in de minimis quantities, on at least 15 days during each calendar quarter. Provided that the common shares are “regularly traded” as described in the preceding sentence, such shares are expected to be marketable stock. There can be no assurance that the common shares will be “regularly traded” in subsequent calendar quarters. U.S. Holders should consult their own tax advisors regarding the marketable stock rules.

A U.S. Holder that makes a Mark-to-Market Election with respect to its common shares generally will not be subject to the rules of Section 1291 of the Code discussed above with respect to such common shares. However, if a U.S. Holder does not make a Mark-to-Market Election beginning in the first tax year of such U.S. Holder’s holding period for the common shares and such U.S. Holder has not made a timely QEF Election, the rules of Section 1291 of the Code discussed above will apply to certain dispositions of, and distributions on, the common shares.

A U.S. Holder that makes a Mark-to-Market Election will include in ordinary income, for each tax year in which we are a PFIC, an amount equal to the excess, if any, of (a) the fair market value of the common shares as of the close of such tax year over (b) such U.S. Holder’s tax basis in such common shares. A U.S. Holder that makes a Mark-to-Market Election will be allowed a deduction in an amount equal to the excess, if any, of (i) such U.S. Holder’s adjusted tax basis in the common shares, over (ii) the fair market value of such common shares (but only to the extent of the net amount of previously included income as a result of the Mark-to-Market Election for prior tax years).

A U.S. Holder that makes a Mark-to-Market Election generally also will adjust such U.S. Holder’s tax basis in the common shares to reflect the amount included in gross income or allowed as a deduction because of such Mark-to-Market Election. In addition, upon a sale or other taxable disposition of such common shares, a U.S. Holder that makes a Mark-to-Market Election will recognize ordinary income or ordinary loss (not to exceed the excess, if any, of (a) the amount included in ordinary income because of such Mark-to-Market Election for prior tax years over (b) the amount allowed as a deduction because of such Mark-to-Market Election for prior tax years).

A U.S. Holder makes a Mark-to-Market Election by attaching a completed IRS Form 8621 to a timely filed U.S. federal income tax return. A timely Mark-to-Market Election applies to the tax year in which such Mark-to-Market Election is made and to each subsequent tax year, unless the common shares cease to be “marketable stock” or the IRS consents to revocation of such election. Each U.S. Holder should consult its own tax advisor regarding the availability of, and procedure for making, a Mark-to-Market Election.

Although a U.S. Holder may be eligible to make a Mark-to-Market Election with respect to the common shares, no such election may be made with respect to the stock of any Subsidiary PFIC that a U.S. Holder is treated as owning because such stock is not marketable. Hence, the Mark-to-Market Election will not be effective to eliminate the interest charge and other income inclusion rules described above with respect to deemed dispositions of Subsidiary PFIC stock or distributions from a Subsidiary PFIC to its shareholder.

The PFIC rules are complex, and each U.S. Holder should consult its own tax advisor regarding the PFIC rules (including the applicability and advisability of a QEF Election and Mark-to-Market Election) and how the PFIC rules may affect the U.S. federal income tax consequences of the acquisition, ownership, and disposition of the common shares.

General Rules Applicable to U.S. Federal Income Tax Consequences of the Acquisition, Ownership, and Disposition of the Common Shares

The following discussion describes the general rules applicable to the ownership and disposition of the common shares, but is subject in its entirety to the special rules described above under the heading “Passive Foreign Investment Company Rules.”

Distributions on the Common Shares.

A U.S. Holder that receives a distribution with respect to a common share will be required to include the amount of such distribution in gross income as a dividend (without reduction for any Canadian income tax withheld from such distribution) to the extent of our current and accumulated “earnings and profits”, as computed under U.S. federal income tax principles. A dividend generally will be taxed to a U.S. Holder at ordinary income tax rates if we are a PFIC for the tax year of such distribution or the preceding tax year. To the extent that a distribution exceeds our current and accumulated “earnings and profits,” such distribution will be treated first as a tax-free return of capital to the extent of a U.S. Holder’s tax basis in such common shares and thereafter as gain from the sale or exchange of such common shares (see “Sale or Other Taxable Disposition of the common shares” below). However, we may not maintain the calculations of earnings and profits in accordance with U.S. federal income tax principles, and each U.S. Holder may be required to assume that any distribution by us with respect to such common shares will constitute ordinary dividend income. Dividends received on such common shares generally will not be eligible for the “dividends received deduction” generally applicable to corporations. Subject to applicable limitations and provided we are eligible for the benefits of the Convention Between Canada and the United States of America with Respect to Taxes on Income and on Capital, signed September 26, 1980, as amended, or the common shares are readily tradable on a United States securities market, dividends paid by us to non-corporate U.S. Holders, including individuals, generally will be eligible for the preferential tax rates applicable to long-term capital gains for dividends, provided certain holding period and other conditions are satisfied, including that we not be classified as a PFIC in the tax year of distribution or in the preceding tax year. The dividend rules are complex, and each U.S. Holder should consult its own tax advisor regarding the application of such rules.

Sale or Other Taxable Disposition of the Common Shares

Upon the sale or other taxable disposition of the common shares, a U.S. Holder generally will recognize capital gain or loss in an amount equal to the difference between (a) the amount of cash plus the fair market value of any property received and (b) such U.S. Holder’s tax basis in such common shares sold or otherwise disposed of. Gain or loss recognized on such sale or other taxable disposition generally will be long-term capital gain or loss if, at the time of the sale or other taxable disposition, such common shares have been held for more than one year. Preferential tax rates may apply to long-term capital gain of a U.S. Holder that is an individual, estate, or trust. There are no preferential tax rates for long-term capital gain of a U.S. Holder that is a corporation. Deductions for capital losses are subject to significant limitations under the Code.

Additional Tax Considerations

Receipt of Foreign Currency

The amount of any distribution paid to a U.S. Holder in foreign currency or on the sale, exchange or other taxable disposition of the common shares generally will be equal to the U.S. dollar value of such foreign currency based on the exchange rate applicable on the date of receipt (regardless of whether such foreign currency is converted into U.S. dollars at that time). If the foreign currency received is not converted into U.S. dollars on the date of receipt, a U.S. Holder will have a tax basis in the foreign currency equal to its U.S. dollar value on the date of receipt. Any U.S. Holder who receives payment in foreign currency and engages in a subsequent conversion or other disposition of the foreign currency may have a foreign currency exchange gain or loss that would be treated as ordinary income or loss, and generally will be U.S. source income or loss for foreign tax credit purposes. Different rules apply to U.S. Holders who use the accrual method of tax accounting. Each U.S. Holder should consult its own U.S. tax advisor regarding the U.S. federal income tax consequences of receiving, owning, and disposing of foreign currency.

Foreign Tax Credit

Subject to the PFIC rules discussed above, a U.S. Holder that pays (whether directly or through withholding) Canadian income tax with respect to dividends paid on the common shares generally will be entitled, at the election of such U.S. Holder, to receive either a deduction or a credit for such Canadian income tax paid. Generally, a credit will reduce a U.S. Holder’s U.S. federal income tax liability on a dollar-for-dollar basis, whereas a deduction will reduce a U.S. Holder’s income subject to U.S. federal income tax. This

election is made on a year-by-year basis and applies to all foreign taxes paid or accrued (whether directly or through withholding) by a U.S. Holder during a year. The foreign tax credit rules are complex and involve the application of rules that depend on a U.S. Holder's particular circumstances. Accordingly, each U.S. Holder should consult its own tax advisor regarding the foreign tax credit rules.

Information Reporting; Backup Withholding Tax

Under U.S. federal income tax laws certain categories of U.S. Holders must file information returns with respect to their investment in, or involvement in, a foreign corporation. For example, U.S. return disclosure obligations (and related penalties) are imposed on U.S. Holders that hold certain specified foreign financial assets in excess of certain threshold amounts. The definition of specified foreign financial assets includes not only financial accounts maintained in foreign financial institutions, but also, unless held in accounts maintained by a financial institution, any stock or security issued by a non-U.S. person. U.S. Holders may be subject to these reporting requirements unless the common shares are held in an account at certain financial institutions. Penalties for failure to file certain of these information returns are substantial. U.S. Holders should consult their own tax advisors regarding the requirements of filing information returns, including the requirement to file IRS Form 8938.

Payments made within the U.S., or by a U.S. payor or U.S. middleman, of dividends on, and proceeds arising from the sale or other taxable disposition of the common shares generally may be subject to information reporting and backup withholding tax, currently at the rate of 24%, if a U.S. Holder (a) fails to furnish its correct U.S. taxpayer identification number (generally on Form W-9), (b) furnishes an incorrect U.S. taxpayer identification number, (c) is notified by the IRS that such U.S. Holder has previously failed to properly report items subject to backup withholding tax, or (d) fails to certify, under penalty of perjury, that it has furnished its correct U.S. taxpayer identification number and that the IRS has not notified such U.S. Holder that it is subject to backup withholding tax. However, certain exempt persons, such as U.S. Holders that are corporations, generally are excluded from these information reporting and backup withholding tax rules. Any amounts withheld under the U.S. backup withholding tax rules will be allowed as a credit against a U.S. Holder's U.S. federal income tax liability, if any, or will be refunded, if such U.S. Holder furnishes required information to the IRS in a timely manner.

The discussion of reporting requirements set forth above is not intended to constitute a complete description of all reporting requirements that may apply to a U.S. Holder. A failure to satisfy certain reporting requirements may result in an extension of the time period during which the IRS can assess a tax and, under certain circumstances, such an extension may apply to assessments of amounts unrelated to any unsatisfied reporting requirement. Each U.S. Holder should consult its own tax advisors regarding the information reporting and backup withholding rules.

THE ABOVE SUMMARY IS NOT INTENDED TO CONSTITUTE A COMPLETE ANALYSIS OF ALL TAX CONSIDERATIONS APPLICABLE TO U.S. HOLDERS WITH RESPECT TO THE ACQUISITION, OWNERSHIP, AND DISPOSITION OF THE COMMON SHARES. U.S. HOLDERS SHOULD CONSULT THEIR OWN TAX ADVISORS AS TO THE TAX CONSIDERATIONS APPLICABLE TO THEM IN THEIR OWN PARTICULAR CIRCUMSTANCES.

CERTAIN CANADIAN FEDERAL INCOME TAX CONSIDERATIONS FOR UNITED STATES RESIDENTS

The following is a summary of certain Canadian federal income tax considerations generally applicable to the holding and disposition of common shares acquired by a holder who, at all relevant times, (a) for the purposes of the *Income Tax Act* (Canada) (the “**Tax Act**”) (i) is not resident, or deemed to be resident, in Canada, (ii) deals at arm’s length with us and Wainwright, and is not affiliated with us or Wainwright, (iii) holds common shares as capital property, (iv) does not use or hold the common shares in the course of carrying on a business in Canada, or otherwise in connection with a business carried on or deemed to be carried on in Canada, (v) has not entered into and will not enter into, with respect to the common shares, a “derivative forward agreement” or a “synthetic disposition arrangement” (each as defined under the Tax Act), and (vi) is not a “registered non-resident insurer” or “authorized foreign bank” (each as defined in the Tax Act), or other holder of special status or in special circumstances, and (b) for the purposes of the Canada-U.S. Tax Convention (the “**Tax Treaty**”), is a resident of the United States, has never been a resident of Canada, does not have and has not had, at any time, a permanent establishment or fixed base in Canada, and who qualifies in all respects for the full benefits of the Tax Treaty. Holders who meet all of the criteria in clauses (a) and (b) above are referred to herein as “**U.S. Holders**”, and this summary only addresses such U.S. Holders.

Generally, the common shares will be considered to be capital property of a U.S. Holder unless they are held or acquired, or deemed to be held or acquired, in the course of carrying on a business of trading or dealing in securities or as part of an adventure or concern in the nature of trade.

This summary does not deal with special situations, such as the particular circumstances of traders or dealers, tax-exempt entities, insurers or financial institutions, or other holders of special status or in special circumstances. Such holders, and all other holders who do not meet the criteria in clauses (a) and (b) above, should consult their own tax advisors.

This summary is based on the current provisions of the Tax Act, the regulations thereunder in force as at the date hereof (the “**Regulations**”), the current provisions of the Tax Treaty, and our understanding of the administrative policies and assessing practices of the Canada Revenue Agency published in writing prior to the date hereof. This summary takes into account all specific proposals to amend the Tax Act and Regulations publicly announced by or on behalf of the Minister of Finance (Canada) prior to the date hereof (the “**Proposed Amendments**”) and assumes that such Proposed Amendments will be enacted in the form proposed. However, such Proposed Amendments might not be enacted in the form proposed, or at all, and no assurance in this regard can be given. This summary does not otherwise take into account or anticipate any changes in law or administrative policies or assessing practices, whether by legislative, governmental, or judicial decision or action, nor does it take into account tax laws of any province or territory of Canada or of any other jurisdiction outside Canada, any or all of which may differ significantly from those discussed in this summary.

For the purposes of the Tax Act, all amounts relating to the acquisition, holding, or disposition of common shares must be expressed in Canadian dollars. Amounts denominated in United States currency generally must be converted into Canadian dollars based on the exchange rate quoted by the Bank of Canada on the relevant date (or, if there is no such rate quoted for the relevant date, the closest preceding date for which such a rate is quoted) or such other rate of exchange that is acceptable to the Minister of National Revenue (Canada).

This summary is of a general nature only and is not intended to be, nor should it be construed to be, legal or tax advice to any particular U.S. Holder, and no representation with respect to the Canadian federal income tax consequences to any particular U.S. Holder or prospective U.S. Holder is made. This summary is not exhaustive of all Canadian federal income tax considerations. Accordingly, all prospective purchasers (including U.S. Holders as defined above) should consult with their own tax advisors for advice with respect to their own particular circumstances.

Withholding Tax on Dividends

Amounts paid or credited or deemed to be paid or credited as, on account or in lieu of payment of, or in satisfaction of, dividends on common shares to a U.S. Holder will be subject to Canadian withholding

tax. Under the Tax Treaty, the rate of Canadian withholding tax on dividends paid or credited by us to a U.S. Holder that beneficially owns such dividends and substantiates eligibility for the benefits of the Tax Treaty is generally 15% (unless the beneficial owner is a company that owns at least 10% of our voting stock at that time, in which case the rate of Canadian withholding tax is generally reduced to 5%).

Disposition of Common Shares

A U.S. Holder will not be subject to tax under the Tax Act on a capital gain realized on a disposition or deemed disposition of common shares, unless the common shares constitute “taxable Canadian property” of the U.S. Holder for the purposes of the Tax Act and the U.S. Holder is not entitled to relief under the Tax Treaty.

Provided the common shares are listed on a “designated stock exchange” as defined in the Tax Act (which currently includes the Nasdaq and the TSXV) at the time of disposition, the common shares generally will not constitute “taxable Canadian property” of a U.S. Holder at that time unless, at any time during the 60-month period immediately preceding the disposition, the following two conditions are met concurrently: (i) the U.S. Holder, persons with whom the U.S. Holder did not deal at arm’s length, partnerships in which the U.S. Holder or such non-arm’s length person holds a membership interest (either directly or indirectly through one or more partnerships), or the U.S. Holder together with all such persons, owned 25% or more of the issued shares of any class or series of shares of the Company; and (ii) more than 50% of the fair market value of the common shares of the Company was derived directly or indirectly from one or any combination of real or immovable property situated in Canada, Canadian resource properties (as defined in the Tax Act), timber resource properties (as defined in the Tax Act), or options in respect of, or interests in, or for civil law rights in, property described in any of the foregoing (whether or not the property exists). Notwithstanding the foregoing, in certain other circumstances set out in the Tax Act, common shares could also be deemed to be “taxable Canadian property” of a U.S. Holder.

U.S. Holders who may hold common shares as “taxable Canadian property” should consult their own tax advisors with respect to the application of Canadian capital gains taxation, any potential relief under the Tax Treaty, and compliance procedures under the Tax Act, none of which is described in this summary.

EXPENSES

We estimate that the total expenses of this offering payable by us, excluding the Wainwright's commissions will be approximately \$236,079 as follows:

SEC registration fee	\$ 440 ⁽¹⁾
FINRA filing fee	639 ⁽¹⁾
Transfer agent fees and expenses	10,000
Printer fees and expenses	20,000
Legal fees and expenses	185,000
Accounting fees and expenses	15,000
Commission	111,058
Miscellaneous	5,000
Total	\$347,137

- (1) Represents 7.99% of the initial SEC registration fee of \$5,510 and FINRA filing fee of \$8,000 based on the \$3,701,931 offering of common shares hereby and a shelf offering registration statement of \$50,000,000.

MATERIAL CHANGES

Except as otherwise described in our [Annual Report on Form 20-F for the fiscal year ended December 31, 2022](#), filed with the SEC on April 28, 2023, in our Reports on Form 6-K filed or furnished under the Exchange Act and incorporated by reference herein and as disclosed in this prospectus supplement, no reportable material changes have occurred since December 31, 2022.

LEGAL MATTERS

Certain legal matters in connection with the securities offered hereby will be passed upon on behalf of the Company by Troutman Pepper Hamilton Sanders LLP, with respect to U.S. legal matters and by Fasken Martineau DuMoulin LLP, with respect to Canadian legal matters. Wainwright is being represented in connection with this offering by Ellenoff Grossman & Schole LLP.

EXPERTS

The consolidated financial statements of XORTX Therapeutics Inc. included in our [Annual Report on Form 20-F for the year ended December 31, 2022](#), have been audited by Smythe LLP, independent registered public accounting firm as set forth in their report, thereon, included therein, and incorporated herein by reference in this prospectus supplement and elsewhere in the registration statement of which this prospectus supplement forms a part. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

ENFORCEABILITY OF CIVIL LIABILITIES

We are a corporation existing under the CBCA. Some of our officers, directors and experts named in this prospectus supplement are Canadian residents, and many of our assets or the assets of our officers and directors are located outside the United States. We have appointed an agent for service of process in the United States, but it may be difficult for holders of common shares who reside in the United States to effect service within the United States upon those directors, officers and experts who are not residents of the United States. It may also be difficult for holders of common shares who reside in the United States to realize in the United States upon judgments of courts of the United States predicated upon our civil liability and the civil liability of our officers and directors under the United States federal securities laws. In addition, there is doubt as to whether an original action could be brought in Canada against us or our directors or officers based solely upon U.S. federal or state securities laws and as to the enforceability in Canadian

courts of judgments of U.S. courts obtained in actions based upon the civil liability provisions of U.S. federal or state securities laws. See “*Risk Factors*.”

WHERE YOU CAN FIND MORE INFORMATION

We are required to file documents with securities commissions or similar authorities in the provinces of British Columbia, Alberta and Ontario in Canada. In addition, we are subject to the informational requirements of the Exchange Act, and, in accordance with the Exchange Act, we also file reports with, and furnish other information to, the SEC. As a foreign private issuer, certain of these reports and other information (including financial information) may be prepared in accordance with the disclosure requirements of Canada, which differ in certain respects from those in the United States. In addition, as a foreign private issuer, we are exempt from the rules under the Exchange Act prescribing the furnishing and content of proxy statements, and our officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act. We are also not required to publish financial statements as promptly as U.S. companies.

You may read any document we file with or furnish to the securities commissions and authorities of the provinces of Canada through the Internet on the Canadian System for Electronic Document Analysis and Retrieval, or SEDAR+. Certain of our filings are also electronically available on EDGAR, and may be accessed at www.sec.gov.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference certain information that we file with them, which means that we can disclose important information to you by referring you to those documents. Information that is incorporated by reference is an important part of this prospectus supplement. We incorporate by reference the documents listed below, which were filed with the SEC:

- (a) Our [Annual Report on Form 20-F for the fiscal year ended December 31, 2022, filed with the SEC on April 28, 2023](#), containing our (i) Annual Information Form dated March 31, 2023; (ii) audited annual consolidated financial statements as of December 31, 2022 and 2021 and for each of the years in the three-year period ended December 31, 2022, including the notes thereto and the auditor's report thereon; and (iii) Management's Discussion and Analysis for the year ended December 31, 2022; and
- (b) Our Reports on Form 6-K furnished to the SEC on [May 4, 2023](#); [May 16, 2023](#); [May 24, 2023](#); [May 30, 2023](#); [June 6, 2023](#); [June 27, 2023](#); [June 29, 2023](#); [June 30, 2023](#); [August 4, 2023](#); [August 15, 2023](#); [August 29, 2023](#); [September 7, 2023](#); [September 12, 2023](#); [September 28, 2023](#); [October 4, 2023](#); [October 12, 2023](#); [October 25, 2023](#); [October 30, 2023](#); [November 2, 2023](#); [November 8, 2023](#); [November 13, 2023](#); [November 16, 2023](#), and November 29, 2023.

We also incorporate by reference each of the following documents we file with the SEC after the date of this prospectus supplement and until the common shares offered hereby have been sold or until such time as the Sales Agreement is terminated: (i) all annual reports on Form 40-F, Form 20-F, or Form 10-K; and (ii) those portions of any reports on Form 6-K that we indicate in such reports are to be deemed incorporated by reference into this prospectus supplement.

Any statement contained in this prospectus supplement or in a document (or part thereof) incorporated by reference, or deemed to be incorporated by reference, in this prospectus supplement shall be deemed to be modified or superseded, for purposes of this prospectus supplement, to the extent that a statement contained in the prospectus supplement or in any subsequently filed document (or part thereof) that also is, or is deemed to be, incorporated by reference in this prospectus supplement modifies or replaces such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute part of this prospectus supplement. The modifying or superseding statement need not state that it has modified or superseded a prior statement or include any other information set forth in the document which it modifies or supersedes.

You may obtain a copy of any of any filings that are incorporated by reference into this prospectus, at no cost, by writing to or telephoning us at the following address:

XORTX Therapeutics Inc.
3710 – 33rd Street NW
Calgary, Alberta T2L 2M1
Canada
(403) 455-7727
Attention: Corporate Secretary

Prospectus



XORTX Therapeutics Inc.

US\$50,000,000

Common Shares

Warrants

Units

XORTX Therapeutics Inc. (“we”, “us”, “our”, “XORTX” or the “Company”) may offer and issue from time to time common shares (“Common Shares”), warrants (“Warrants”) and units comprised of Common Shares and Warrants (“Units”) of the Company or any combination thereof (collectively, the “Securities”) up to an aggregate initial offering price of US\$50,000,000 (or the equivalent thereof if the Securities are denominated in any other currency or currency unit) during the period that this registration statement (the “Prospectus”), including any amendments hereto, remains effective. Securities may be offered separately or together, in amounts, at prices and on terms to be determined based on market conditions at the time of sale and set forth in one or more prospectus supplements (each, a “Prospectus Supplement” and together, the “Prospectus Supplements”).

The specific terms of the Securities with respect to a particular offering will be set out in the applicable Prospectus Supplement and may include, where applicable (i) in the case of Common Shares, the number of Common Shares offered, the offering price, and any other terms specific to the Common Shares being offered, (ii) in the case of Warrants, the offering price, the designation, the number and the terms of the Common Shares purchasable upon exercise of the Warrants, any procedures that will result in the adjustment of these numbers, the exercise price, the dates and periods of exercise and any other terms specific to the Warrants being offered, and (iii) in the case of Units, the number of Units offered, the offering price of the Units, the number, designation and terms of the Common Shares and Warrants comprising the Units and any procedures that will result in the adjustment of those numbers and any other specific terms applicable to the offering of Units. Where required by statute, regulation or policy, and where Securities are offered in currencies other than United States dollars, appropriate disclosure of foreign exchange rates applicable to the Securities will be included in the Prospectus Supplement describing the Securities.

All shelf information permitted under applicable law to be omitted from this Prospectus will be contained in one or more Prospectus Supplements that will be delivered to purchasers together with this Prospectus. Each Prospectus Supplement will be incorporated by reference into this Prospectus for the purposes of securities legislation as of the date of the Prospectus Supplement and only for the purposes of the distribution of the Securities to which the Prospectus Supplement pertains.

This Prospectus constitutes a public offering of the Securities only in those jurisdictions where they may be lawfully offered for sale and only by persons permitted to sell the Securities in those jurisdictions. We may offer and sell Securities to, or through, underwriters or dealers and also may offer and sell certain Securities directly to other purchasers or through agents pursuant to exemptions from registration or qualification under applicable securities laws. A Prospectus Supplement relating to each issue of Securities offered thereby will set forth the names of any underwriters, dealers, or agents involved in the offering and sale of the Securities and will set forth the terms of the offering of the Securities, the method of distribution of the Securities including, to the extent applicable, the proceeds we will receive and any fees, discounts or any other compensation payable to underwriters, dealers or agents and any other material terms of the plan of distribution.

Our Common Shares are currently traded under the symbol “XRTX” on the TSX Venture Exchange (the “TSXV”) and on the Nasdaq Capital Market (“Nasdaq”). On January 26, 2023 (the last trading day prior to the date of this Prospectus), the closing price of the Common Shares on: (i) the TSXV was \$0.91; and (ii) the Nasdaq was US\$0.692. We will apply to have any Common Shares distributed under this Prospectus listed on the TSXV and the Nasdaq provided the Common Shares are currently listed or traded on such exchanges. Any listing and admission will be subject to XORTX fulfilling all of the listing requirements of the TSXV and the Nasdaq, respectively. Unless otherwise specified in the applicable

Prospectus Supplement, any offering of Warrants or Units will be a new issue of Securities with no established trading market and, accordingly, such Securities will not be listed on any securities or stock exchange or on any automated dealer quotation system. Pursuant to General Instruction I.B.5. of Form F-3, in no event will we sell our 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 US\$75 million. During the 12 calendar months prior to and including the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.5. of Form F-3.

We are an “emerging growth company” as defined by the Jumpstart Our Business Startups Act of 2012 (the “**JOBS Act**”) and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings. However, we have elected not to take advantage of the extended transition period allowed for emerging growth companies for complying with new or revised accounting guidance as allowed by Section 107 of the JOBS Act and Section 7(a)(2)(B) of the Securities Act of 1933, as amended, (the “**Securities Act**”).

There is no market through which the Warrants or Units may be sold and purchasers may not be able to resell such Securities purchased under this Prospectus and any applicable Prospectus Supplement. This may affect the pricing of such Securities in the secondary market, the transparency and availability of trading prices, the liquidity of the Securities, and the extent of issuer regulation. See “Risk Factors”.

We express all amounts in this prospectus in Canadian dollars, except where otherwise indicated. References to “\$” are to Canadian dollars and references to “US\$” are to U.S. dollars.

Our principal executive offices are located at 3710 — 33rd Street NW, Calgary, Alberta, Canada T2L 2M1, Telephone: (403) 455-7727.

We have prepared this Prospectus in accordance with United States disclosure requirements. Our financial statements are prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (“IFRS”) and thus may not be comparable to financial statements of United States companies.

Purchasers of the Securities should be aware that the acquisition of the Securities may have tax consequences in the United States and in Canada. Such consequences for purchasers who are resident in, or citizens of, the United States, or who are resident in Canada may not be described fully herein or in any applicable Prospectus Supplement. Purchasers of the Securities should read the tax discussion contained in the applicable Prospectus Supplement with respect to a particular offering of Securities.

The enforcement by investors of civil liabilities under United States federal securities laws may be affected adversely by the fact that XORTX is incorporated and governed under the laws of the Province of British Columbia, Canada, that a number of our officers and directors are residents of countries other than the United States, that some or all of the underwriters, if any, may be residents of a foreign country, and a substantial portion of our assets and some of said persons are located outside the United States.

No underwriter has been involved in the preparation of this Prospectus nor has any underwriter performed any review of the contents of this Prospectus.

Investing in the Securities involves a high degree of risk. Prospective purchasers of the Securities should carefully consider all the information in this Prospectus and in the documents incorporated by reference in this Prospectus. See “Risk Factors” beginning on page 4 of this Prospectus.

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

The date of this Prospectus is February 3, 2023.

TABLE OF CONTENTS

	<u>Page</u>
<u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>1</u>
<u>PUBLICLY AVAILABLE INFORMATION ON XORTX</u>	<u>2</u>
<u>DOCUMENTS INCORPORATED BY REFERENCE</u>	<u>3</u>
<u>RISK FACTORS</u>	<u>4</u>
<u>MATERIAL CHANGES</u>	<u>4</u>
<u>CAPITALIZATION AND INDEBTEDNESS</u>	<u>5</u>
<u>DESCRIPTION OF SHARE CAPITAL</u>	<u>6</u>
<u>DESCRIPTION OF THE WARRANTS</u>	<u>7</u>
<u>DESCRIPTION OF THE UNITS</u>	<u>7</u>
<u>USE OF PROCEEDS</u>	<u>10</u>
<u>PLAN OF DISTRIBUTION</u>	<u>11</u>
<u>TRADING PRICE AND VOLUME</u>	<u>11</u>
<u>DIVIDEND POLICY</u>	<u>11</u>
<u>DILUTION</u>	<u>11</u>
<u>LEGAL MATTERS</u>	<u>11</u>
<u>EXPENSES OF ISSUANCE AND DISTRIBUTION</u>	<u>12</u>
<u>EXPERTS</u>	<u>12</u>
<u>TRANSFER AGENT, REGISTRAR AND AUDITOR</u>	<u>12</u>
<u>DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES</u>	<u>12</u>
<u>MATERIAL CONTRACTS</u>	<u>13</u>
<u>CERTAIN INCOME TAX CONSIDERATIONS</u>	<u>13</u>

You should rely only on the information contained in or incorporated by reference into this Prospectus or any Prospectus Supplement. References to this “Prospectus” include documents incorporated by reference therein. See “Documents Incorporated by Reference”. The information in or incorporated by reference into this Prospectus is current only as of its date. We have not authorized anyone to provide you with information that is different. This document may only be used where it is legal to offer these Securities.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Prospectus contains forward-looking statements that are subject to risks and uncertainties. These forward-looking statements include information about possible or assumed future results of our business, financial condition, results of operations, liquidity, plans and objectives. In some cases, you can identify forward-looking statements by terminology such as “believe,” “may,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “plan,” “expect,” “predict,” “potential,” or the negative of these terms or other similar expressions. The statements we make regarding the following matters are forward-looking by their nature and are based on certain of the assumptions noted below:

- the intentions, plans and future actions of the Company;
- statements relating to the business and future activities of the Company;
- anticipated developments in operations of the Company;
- market position, ability to compete and future financial or operating performance of the Company;
- the timing and amount of funding required to execute the Company’s business plans;
- capital expenditures;
- the effect on the Company of any changes to existing or new legislation or policy or government regulation;
- the availability of labor;
- requirements for and availability to us of additional capital;
- goals, strategies and future growth;
- the adequacy of financial resources;
- expectations regarding revenues, expenses and anticipated cash needs;
- the impact of the COVID-19 pandemic on the business and operations of the Company; and
- general market conditions and macroeconomic trends driven by the COVID-19 pandemic and/or geopolitical conflicts, including supply chain disruptions, market volatility, inflation, and labor challenges, among other factors.

The preceding list is not intended to be an exhaustive list of all of our forward-looking statements. The forward-looking statements are based on our beliefs, assumptions and expectations of future performance, taking into account the information currently available to us. These statements are only predictions based upon our current expectations and projections about future events. There are important factors that could cause our actual results, levels of activity, performance or achievements to differ materially from the results, levels of activity, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, those factors identified under the “*Risk Factors*” in this Prospectus. Furthermore, unless otherwise stated, the forward-looking statements contained in this Prospectus are made as of the date hereof, and we have no intention and undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events, changes or otherwise, except as required by law.

PUBLICLY AVAILABLE INFORMATION ON XORTX

We file reports and other information with the securities commissions and similar regulatory authorities in the provinces of Canada (collectively, the “**Commissions**”). These reports and information are available to the public free of charge on SEDAR at www.sedar.com.

We are subject to the information requirements of the U.S. Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), relating to foreign private issuers and applicable Canadian securities legislation and, in accordance therewith, file reports and other information with the SEC and securities regulatory authorities in Canada. Investors may read and download documents we have filed with the SEC’s Electronic Data Gathering and Retrieval system at www.sec.gov.

Readers should rely only on information contained or incorporated by reference in this Prospectus and any applicable Prospectus Supplement. We have not authorized anyone to provide the reader with different information. We are not making an offer of the Securities in any jurisdiction where the offer is not permitted. Readers should not assume that the information contained in this Prospectus is accurate as of any date other than the date on the front of this Prospectus, unless otherwise noted herein or as required by law. It should be assumed that the information appearing in this Prospectus and the documents incorporated herein by reference are accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

DOCUMENTS INCORPORATED BY REFERENCE

Information has been incorporated by reference in this Prospectus from documents filed with the Commissions and filed with, or furnished to, the SEC. Copies of the documents incorporated herein by reference may be obtained on request without charge upon written or oral request from our Corporate Secretary at 3710 — 33rd Street NW, Calgary, Alberta, Canada T2L 2M1, Telephone: (403) 455-7727. Copies of these documents are also available through the Internet on the System for Electronic Document Analysis and Retrieval, which can be accessed online at www.sedar.com and on the SEC's Electronic Data Gathering and Retrieval System, which can be accessed online at www.sec.gov and at our website at www.xortx.com.

The following documents, which we filed or furnished with the Commissions and the SEC, as applicable, are specifically incorporated by reference into, and form an integral part of, this Prospectus:

- (a) [Our Annual Report on Form 20-F for the year ended December 31, 2021 filed with the SEC on May 3, 2022, as amended January 27, 2023 \(together, the "Form 20-F"\)](#);
- (b) Our Reports on Form 6-K filed with the SEC on [May 16, June 30](#) (with respect to the Company's [July 20, 2022](#) Annual and Special Meeting of Shareholders), [July 22, August 11, November 14](#), and [November 28, 2022](#) and [January 19, 2023](#); and
- (c) The description of our securities included in our Registration Statement on [Form 8-A filed with the SEC on September 29, 2021](#), including any subsequent amendments or reports filed for the purpose of updating such description.

All documents filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, and any document of the type referred to in the preceding paragraph, subsequent to the date of this Prospectus and prior to the termination of the offering of the Securities offered by this Prospectus are incorporated by reference into this Prospectus and form part of this Prospectus from the date of filing or furnishing of these documents. We may incorporate by reference into this Prospectus any Form 6-K that is submitted to the SEC after the date of the filing of the registration statement of which this Prospectus forms a part and before the date of termination of this offering. Any such Form 6-K that we intend to so incorporate shall state in such form that it is being incorporated by reference into this Prospectus. The documents incorporated or deemed to be incorporated herein by reference contain meaningful and material information relating to us and the readers should review all information contained in this Prospectus and the documents incorporated or deemed to be incorporated herein by reference.

A Prospectus Supplement containing the specific terms of an offering of Securities and other information relating to the Securities will be delivered to prospective purchasers of such Securities together with this Prospectus and will be deemed to be incorporated into this Prospectus as of the date of such Prospectus Supplement only for the purpose of the offering of the Securities covered by that Prospectus Supplement.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this Prospectus, to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not constitute a part of this Prospectus, except as so modified or superseded. The modifying or superseding statement need not state that it has modified or superseded a prior statement or include any other information set forth in the document that it modifies or supersedes. The making of such a modifying or superseding statement shall not be deemed an admission for any purposes that the modified or superseded statement, when made, constituted a misrepresentation, an untrue statement of a material fact or an omission to state a material fact that is required to be stated or that is necessary to make a statement not misleading in light of the circumstances in which it was made.

RISK FACTORS

Prospective investors in a particular offering of Securities should carefully consider the risks presented in this Prospectus, as well as the information and risk factors contained in the Prospectus Supplement relating to that offering and any and all other information incorporated by reference in this Prospectus. Discussions of certain risks affecting the Company are generally provided and described in, among other documents, the Company's annual and interim reports filed from time to time, which are incorporated by reference into this Prospectus and include the Company's annual information form, annual management's discussion and analysis and interim management's discussion and analysis. In particular, see the "Risk Factors" heading in the Company's latest annual information form and interim or annual management's discussion and analysis, as the case may be.

An investment in the Securities offered hereunder is speculative and involves a high degree of risk. The risks and uncertainties described or incorporated by reference herein are not the only ones the Company may face. Additional risks and uncertainties, including those that the Company is unaware of or that are currently deemed immaterial, may also become important factors that affect the Company and its business. If any such risks actually occur, the Company's business, financial condition and results of operations could be materially adversely affected.

In addition to the risks set out in our Form 20-F and Forms 6-K filed May 16, August 11, and November 14, 2022 and the other risk factors presented in a Prospectus Supplement or other reports that may, from time to time, be incorporated by reference into this Prospectus, prospective investors should also carefully consider the risks set out below.

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 Common Shares or other securities convertible into or exchangeable for Common Shares at prices that may not be the same as the price per share paid by any investor in an offering in a subsequent Prospectus Supplement. We may sell Common Shares or other securities in any other offering at a price per share that is less than the price per share or other security paid by any investor in an offering in a subsequent Prospectus Supplement, and investors purchasing Common Shares or other securities in the future could have rights superior to you. The price per share at which we sell additional Common Shares or securities convertible or exchangeable into Common Shares, in future transactions may be higher or lower than the price per share paid by any investor in an offering under a subsequent Prospectus Supplement.

There can be no assurance as to the liquidity of the trading market for certain Securities or that a trading market for certain Securities will develop.

There is no public market for our warrants, and unless otherwise specified in the applicable Prospectus Supplement, the Company does not intend to apply for listing of Warrants. If these securities are traded after their initial issue, they may trade at a discount from their initial offering prices depending on the market for similar securities, prevailing interest rates and other factors, including general economic conditions and the Company's financial condition. There can be no assurance as to the liquidity of the trading market for any Warrants or that a trading market for these securities will develop.

There will be no market for the Units.

We have not applied and do not intend to apply to list the Units on any securities exchange. There will be no market through which Units may be sold and purchasers may not be able to resell Units purchased in any offering. If the Units are traded after their initial issue, they may trade at a discount from their initial offering prices depending on the market conditions, prevailing interest rates and other factors, including general economic conditions and our financial condition. There can be no assurance as to the liquidity of the trading market for the Units or that a trading market for such Units will develop.

MATERIAL CHANGES

Except as otherwise disclosed in this Prospectus there have been no material changes to our operations that have occurred since September 30, 2022, and that have not been described in a report on Form 6-K furnished under the Exchange Act and incorporated by reference into this Prospectus.

CAPITALIZATION AND INDEBTEDNESS

Our capitalization will be set forth in the applicable prospectus supplement or in a report on Form 6-K subsequently furnished to the SEC and specifically incorporated by reference into this prospectus.

DESCRIPTION OF SHARE CAPITAL**General**

The following is a summary of the material rights of our share capital as contained in our notice of articles and articles and any amendments thereto. This summary is not a complete description of the share rights associated with our capital stock. For more detailed information, please see our notice of articles and articles, which are filed as exhibits to the registration statement of which this prospectus forms a part.

Common Shares***Outstanding Shares***

Our authorized share capital consists of an unlimited number of Common Shares, each without par value.

As of January 27, 2023, we had 1,167,095 Common Shares issuable pursuant to exercisable outstanding stock options, 583,899 Common Shares issuable pursuant to outstanding options that are not currently exercisable, 10,579,796 Common Shares issuable upon the exercise of outstanding common share warrants, and we had approximately 15 holders of record of our Common Shares.

Voting Rights

Under our articles, the holders of our Common Shares are entitled to one vote for each common share held on all matters submitted to a vote of the shareholders, including the election of directors. Our notice of articles and articles do not provide for cumulative voting rights. Because of this, the holders of a plurality of the Common Shares entitled to vote in any election of directors can elect all of the directors standing for election, if they so choose.

Dividends

Subject to priority rights that may be applicable to any then outstanding Common Shares, and the applicable provisions of the Business Corporation Act British Columbia (“BCBCA”), holders of our Common Shares are entitled to receive dividends, as and when declared by our Board, in their sole discretion as they see fit. For more information, see the section titled “*Dividend Policy*.”

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our Common Shares are entitled to share ratably in the net assets legally available for distribution to shareholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding preferred shares.

Rights and Preferences

Our Common Shares contain no pre-emptive or conversion rights and have no provisions for redemption or repurchase for cancellation, surrender or sinking or purchase funds. There are no provisions in our notice of articles and articles requiring holders of Common Shares to contribute additional capital. The rights, preferences and privileges of the holders of our Common Shares are subject to and may be adversely affected by the rights of the holders of any series of new preferred shares that may be created, authorized, designated, and issued in the future.

Fully Paid and Non-assessable

All of our outstanding Common Shares are, and the Common Shares to be issued pursuant to this Prospectus, when paid for, will be fully paid and non-assessable.

DESCRIPTION OF THE WARRANTS

Warrants will typically be offered with Common Shares, with such securities often referred to collectively as a “Unit”, but may be offered separately. The Warrants either will be issued under a warrant indenture or agreement that will be entered into by the Company and a trustee at the time of issuance of the Warrants or will be represented by warrant certificates issued by the Company.

Warrants will entitle the holder thereof to receive Common Shares and/or other Securities upon the exercise thereof and payment of the applicable exercise price. A Warrant will be exercisable for a specific period of time at the end of which time it will expire and cease to be exercisable.

Holders of Warrants are not shareholders of the Company. The particular terms and provisions of Warrants offered by this Prospectus and any applicable Prospectus Supplement will be described in the Prospectus Supplement filed in respect of such Warrants. This description may include, without limitation and as applicable: (i) the title or designation of the Warrants; (ii) the number of Warrants offered; (iii) the number of Common Shares and/or other Securities purchasable upon exercise of the Warrants and the procedures for exercise; (iv) the exercise price of the Warrants; (v) the dates or periods during which the Warrants are exercisable and when they expire; (vi) the designation and terms of any other Securities with which the Warrants will be offered, if any, and the number of Warrants that will be offered with each such Security; and (vii) any other material terms and conditions of the Warrants including, without limitation, transferability and adjustment terms and whether the Warrants will be listed on a securities exchange.

DESCRIPTION OF THE UNITS

Units are securities consisting of one or more of the other Securities described in this Prospectus offered together as a “Unit”. A Unit is typically issued such that the holder thereof is also the holder of each Security included in the Unit. Thus, the holder of a Unit will have the rights and obligations of a holder of each Security comprising the Unit. The unit agreement under which a Unit is issued may provide that the Securities comprising the Unit may not be held or transferred separately at any time or before a specified date.

The particular terms and provisions of Units offered by this Prospectus and any applicable Prospectus Supplement will be described in the Prospectus Supplement filed in respect of such Units. This description may include, without limitation and as applicable: (i) the designation and terms of the Units and of the Securities comprising the Units, including whether and under what circumstances those Securities may be held or transferred separately; (ii) any provisions for the issuance, payment, settlement, transfer or exchange of the Units or of the Securities comprising the Units; (iii) whether the Units will be issued in fully registered or global form; and (iv) any other material terms and conditions of the Units.

CORPORATE GOVERNANCE

Under the BCBCA, we are required to hold a general meeting of our shareholders at least once every year at a time and place determined by our Board, provided that the meeting must not be held later than 15 months after the preceding annual general meeting. A notice to convene a meeting, specifying the date, time and location of the meeting must be sent to shareholders, to each director and the auditor not less than 21 days prior to the meeting or such other minimum period as required by the applicable securities laws. Under the BCBCA, shareholders entitled to notice of a meeting may waive or reduce the period of notice for that meeting, provided applicable securities laws requirements are met.

Pursuant to our articles, all business transacted at a special meeting of shareholders (except business relating to the conduct of or voting at the meeting) and all business transacted at an annual meeting of shareholders (except business relating to the conduct of or voting at the meeting, consideration of our financial statements presented at the meeting, consideration of any director or auditor’s report, setting or changing of the number of directors, election or appointment of directors, appointment of the auditor, remuneration of the auditor, business arising out of a report of the directors not requiring the passage of a special or exceptional resolution, and any other business which, under the articles or BCBCA, may be transacted at a meeting of shareholders without prior notice of the business being given to the shareholders) is deemed to be special business. Notice of a meeting of shareholders at which special business is to be

transacted shall (a) state the general nature of that business; and (b) if the special business includes considering, ratifying, adopting or authorizing any document, or the signing of any document, have attached to it the document or state that such document is available for inspection.

Under our articles, our Board has the power at any time to call a meeting of our shareholders where special business is to be considered.

Those entitled to vote at a meeting are entitled to attend meetings of our shareholders. Every shareholder entitled to vote may appoint one or more (but not to exceed five) proxyholders to attend the meeting in the manner and to the extent authorized and with the authority conferred by the proxy. Directors, auditors, legal counsels, secretaries (if any), and any other persons invited by the directors are entitled to attend any meeting of our shareholders but will not be counted in quorum or be entitled to vote at the meeting unless he or she or it is a shareholder or proxyholder entitled to vote at the meeting.

Material Differences Between the BCBCA and the DGCL

The material differences between the BCBCA and the DGCL that may have the greatest such effect include, but are not limited to, the following: (i) for material corporate transactions (such as mergers and amalgamations, other extraordinary corporate transactions or amendments to our articles) the BCBCA generally requires a two-thirds majority vote by shareholders (including, in some circumstances, shareholders that otherwise do not have the right to vote), whereas the DGCL generally requires only a majority vote; (ii) under the BCBCA, holders of 5% or more of our shares that carry the right to vote at a meeting of shareholders can requisition a general meeting of shareholders at which special matters may be conducted, whereas such right does not exist under the DGCL; and (iii) unlike the DGCL which does not provide for any oppression remedy for shareholders of Delaware entities, the BCBCA provides an oppression remedy that enables a court to make an order, whether interim or final, if an application is made to the court by a shareholder in a timely manner and it appears to the court that there are reasonable grounds for believing (A) that the affairs of the corporation are being or have been conducted, or the powers of the directors are being or have been exercised, in a manner that is oppressive to one or more shareholders, or (B) that some act of the corporation has been done or is threatened, or that some resolution of the shareholders or of the shareholders holding shares of a class or series of shares has been passed or is proposed, that is unfairly prejudicial to one or more of the shareholders including the applicant.

Certain Takeover Bid Requirements

Unless such offer constitutes an exempt transaction, an offer made by a person, an “offeror”, to acquire outstanding shares of a Canadian entity that, when aggregated with the offeror’s holdings (and those of persons or companies acting jointly with the offeror), would constitute 20% or more of the outstanding shares in a class, would be subject to the take-over provisions of Canadian securities laws. The foregoing is a limited and general summary of certain aspects of applicable securities law in the provinces and territories of Canada, all in effect as of the date hereof.

In addition to those takeover bid requirements noted above, the acquisition of our shares may trigger the application of statutory regimes including among others, the Investment Canada Act (Canada) and the Competition Act (Canada).

Limitations on the ability to acquire and hold our shares may be imposed by the Competition Act (Canada). This legislation permits the Commissioner of Competition (the “**Commissioner**”), to review any acquisition of control over or of a significant interest in us. This legislation grants the Commissioner jurisdiction, for up to one year after closing, to challenge this type of acquisition before the Canadian Competition Tribunal on the basis that it would, or would be likely to, substantially prevent or lessen competition in any market in Canada.

Since we are a publicly-traded corporation, this legislation also requires any person who intends to acquire our voting shares to file a notification with the Canadian Competition Bureau if certain financial thresholds are exceeded and if that person (and their affiliates) would hold more than 20% of our voting shares as a result of such acquisition. If a person already owns more than 20% of our voting shares, a notification must be filed before the acquisition of additional voting shares that would bring that person’s

holdings to over 50%. Where a notification is required, the legislation prohibits completion of the acquisition until the expiration of a statutory waiting period or, if applicable, a second statutory waiting period, unless the Commissioner provides written notice that he does not intend to challenge the acquisition. A common closing condition of acquisitions subject to notification under the Competition Act (Canada) is clearance from the Commissioner, even if the applicable statutory waiting period has expired and the parties are in a legal position to close.

The Investment Canada Act (Canada) requires any person that is a “non-Canadian” (as defined in the Investment Canada Act (Canada)) who acquires control of an existing Canadian business, where the acquisition of control is not a reviewable transaction, to file a notification with Innovation, Science and Economic Development. The Investment Canada Act (Canada) generally prohibits the implementation of a reviewable transaction unless, after review, the relevant minister is satisfied that the investment is likely to be of net benefit to Canada. Under the Investment Canada Act (Canada), the acquisition of control of us (either through the acquisition of our shares or all or substantially all our assets) by a non-Canadian would be reviewable under the “net benefit” standard only if the applicable specified financial threshold is met or exceeded and no exemption applied.

The acquisition of a majority of the voting interests of an entity is deemed to be acquisition of control of that entity. The acquisition of less than a majority but one-third or more of the voting shares of a corporation or an equivalent undivided ownership interest in the voting shares of a corporation is presumed to be an acquisition of control of that corporation unless it can be established that, on the acquisition, the corporation is not controlled in fact by the acquirer through the ownership of voting shares. The acquisition of less than one-third of the voting shares of a corporation is deemed not to be an acquisition of control of that corporation.

Under the national security regime in the Investment Canada Act (Canada), a national security review on a discretionary basis may also be undertaken by the federal government in respect of a much broader range of investments by a non-Canadian to “acquire, in whole or in part, or to establish an entity carrying on all or any part of its operations in Canada”, provided that the entity has a specified nexus to Canada. The relevant test is whether such an investment by a non-Canadian could be “injurious to national security.” The relevant minister has broad discretion to determine whether an investor is a non-Canadian and may be subject to national security review. Review on national security grounds is at the discretion of the federal government and, depending on the facts, may occur on a pre- or post-closing basis and includes the ability to block a transaction or, for a completed transaction, order divestiture.

There is no law, governmental decree or regulation in Canada that restricts the export or import of capital or which would affect the remittance of dividends or other payments by us to non-Canadian holders of our Common Shares or preferred shares, other than withholding tax requirements.

Neither our notice of articles to be in effect upon the completion of this offering nor articles to be in effect upon the completion of this offering contain any change of control limitations with respect to a merger, acquisition or corporate restructuring that involves us.

This summary above is not a comprehensive description of relevant or applicable considerations regarding such requirements and, accordingly, is not intended to be, and should not be interpreted as, legal advice to any prospective purchaser and no representation with respect to such requirements to any prospective purchaser is made. Prospective investors should consult their own Canadian legal advisors with respect to any questions regarding the foregoing and securities law in the provinces and territories of Canada.

Actions Requiring a Special Majority

Under our articles, the number of votes required for the corporation to pass a special resolution at a meeting of shareholders is two-third of the votes cast on the resolution. Special resolutions include resolutions to: (i) create special rights or restrictions for, and attach such special rights or restrictions to, any class or series of shares; (ii) vary or delete any special rights or restrictions attached to any class or series of shares; and (iii) remove a director before the expiration of his or her term of office.

Advance Notice Procedures and Shareholder Proposals

Under the BCBCA, shareholders may make proposals for matters to be considered at the annual general meeting of shareholders. Such proposals must be sent to us in advance of any proposed meeting by delivering a timely written notice in proper form to our registered office in accordance with the requirements of the BCBCA. The notice must include information on the business the shareholder intends to bring before the meeting. In addition, our articles require that shareholders must give advance notice to nominate directors or to submit proposals for consideration at shareholders' meetings.

These provisions could have the effect of delaying until the next shareholder meeting the nomination of certain persons for director that are favored by the holders of a majority of our outstanding voting securities.

Ownership and Exchange Controls

There is currently no law, governmental decree or regulation in Canada that restricts the export or import of capital, or which would affect the remittance of dividends, interest or other payments by us to non-resident holders of our Common Shares, other than withholding tax requirements.

There is currently no limitation, imposed by Canadian law or our articles that will be in effect prior to closing, on the right of non-residents to acquire, hold or vote our Common Shares, other than those imposed by applicable securities laws and the Investment Canada Act (Canada). The Investment Canada Act (Canada) will generally not apply except in respect of national security and where control of a Canadian business, which has an enterprise value or assets at or over a certain threshold, is acquired and will not generally apply to trading of securities listed on a stock exchange.

USE OF PROCEEDS

The net proceeds to be derived from the sale of Securities will be the issue price thereof less any commission paid in connection therewith and the expenses relating to the particular offering of Securities. The net proceeds to us from any offering of Securities, the proposed use of those proceeds and the specific business objectives that we wish to accomplish with such proceeds will be set out in the applicable Prospectus Supplement. There may be circumstances where, on the basis of results obtained or for other sound business reasons, a re-allocation of funds may be necessary or prudent. Accordingly, management of the Company will have broad discretion in the application of the proceeds of an offering of Securities. The actual amount that the Company spends in connection with each intended use of proceeds may vary from the amounts specified in the applicable Prospectus Supplement and will depend on a number of factors, including those referred to under "Risk Factors" and any other factors set out in the applicable Prospectus Supplement. We may invest funds which we do not immediately use. Such investments may include short-term marketable investment grade securities.

We may, from time to time, issue securities (including debt securities) other than pursuant to this Prospectus. The Company had negative cash flow from operating activities of \$6,062,510 and \$6,811,510 for the year ended December 31, 2021 and for the nine-month period ended September 30, 2022, respectively. The Company cannot guarantee that positive cash flow from operating activities will be obtained. The Company may continue to have negative cash flow from operating activities until sufficient levels of sales are achieved.

PLAN OF DISTRIBUTION

We may sell the Securities, separately or together, to or through underwriters or dealers purchasing as principals for public offering and sale by them, and also may sell Securities to one or more other purchasers directly or through agents. Each Prospectus Supplement will set forth the terms of the offering, including the name or names of any underwriters or agents, if any, the purchase price or prices of the Securities and the proceeds we will receive from the sale of the Securities.

The Securities may be sold from time to time in one or more transactions at a fixed price or prices which may be changed or at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices including sales in transactions that are deemed to be “at-the-market” distributions, including sales made directly on the TSXV, Nasdaq or other existing trading markets for the securities. The prices at which the Securities may be offered may vary as between purchasers and during the period of distribution. If, in connection with the offering of Securities at a fixed price or prices, the underwriters, if any, have made a bona fide effort to sell all of the Securities at the initial offering price fixed in the applicable Prospectus Supplement, the public offering price may be decreased and thereafter further changed, from time to time, to an amount not greater than the initial public offering price fixed in such Prospectus Supplement, in which case the compensation realized by the underwriters will be decreased by the amount that the aggregate price paid by purchasers for the Securities is less than the gross proceeds paid to us by the underwriters.

Underwriters, dealers and agents who participate in the distribution of the Securities may be entitled under agreements to be entered into with us to indemnification by us against certain liabilities, including liabilities under the Securities Act and Canadian securities legislation, or to contribution with respect to payments which such underwriters, dealers or agents may be required to make in respect thereof. Such underwriters, dealers and agents may be customers of, engage in transactions with, or perform services for, us in the ordinary course of business.

In connection with any offering of Securities, except as otherwise set out in a Prospectus Supplement relating to a particular offering of Securities, the underwriters may over-allot or effect transactions intended to maintain or stabilize the market price of the Securities offered at a level above that which might otherwise prevail in the open market. Such transactions, if commenced, may be discontinued at any time.

TRADING PRICE AND VOLUME

Our Common Shares are listed on Nasdaq and the TSXV under the symbol “XRTX”. Trading price and volume of the Common Shares will be provided in each Prospectus Supplement.

DIVIDEND POLICY

We have never paid any dividends on our Common Shares or any of our other securities. We currently intend to retain any future earnings to finance the growth and development of our business, and we do not anticipate that we will declare or pay any cash dividends in the foreseeable future. Any future determination to pay cash dividends will be at the discretion of our Board and will be dependent upon our financial condition, results of operations, capital requirements, restrictions under any future indebtedness and other factors the Board deems relevant.

DILUTION

Purchasers of Securities in an offering may suffer immediate and substantial dilution in the net tangible book value per share of Common Shares. Dilution in net tangible book value per share represents the difference between the amount per Share paid by purchasers in an offering and the net tangible book value per share of Common Shares immediately after an offering.

LEGAL MATTERS

Unless otherwise specified in the Prospectus Supplement relating to an offering of Securities, certain Canadian and United States legal matters relating to the offering of such Securities will be passed upon for us by Fasken Martineau DuMoulin LLP as to matters relating to Canadian law and by Troutman Pepper

Hamilton Sanders LLP as to matters relating to United States federal securities law. In addition, certain legal matters in connection with any offering of Securities may be passed upon for any underwriters, dealers or agents by counsel to be designated at the time of the offering by such underwriters, dealers or agents with respect to matters of Canadian and United States law.

EXPENSES OF ISSUANCE AND DISTRIBUTION

The following is a statement of the expenses (all of which are estimated), other than any underwriting discounts and commissions and expenses reimbursed by us, if any, to be incurred in connection with a distribution of an assumed amount of US\$50,000,000 of Securities under the offering.

SEC registration fees	US\$5,510
Nasdaq Listing fees	(1)
TSXV Listing fees	(1)
Printing Expenses	(1)
Legal fees and expenses	(1)
Accountants' fees and expenses	(1)
Transfer agent fees and expenses	(1)
Miscellaneous	(1)
Total	US\$5,510

Notes:

- (1) To be provided by a Prospectus Supplement, or as an exhibit to a Report on Form 6-K that is incorporated by reference into this Prospectus.

EXPERTS

The consolidated financial statements of XORTX as of and for the year ended December 31, 2021, have been audited by Smythe LLP, independent registered public accounting firm, as set forth in their report thereon. Smythe LLP is independent with respect to us within the meaning of the Code of Professional Conduct of the Chartered Professional Accountants of British Columbia and under all relevant U.S. professional and regulatory standards, including Public Company Accounting Oversight Board Rule 3520. We have included our financial statements in this prospectus and in this registration statement in reliance on the report of Smythe LLP given on their authority as experts in accounting and auditing.

TRANSFER AGENT, REGISTRAR AND AUDITOR

The transfer agent and registrar for our Common Shares is TSX Trust Company at its principal office in Toronto, Canada. Our co-transfer agent is Continental Stock Transfer & Trust Company.

Smythe LLP, located at 1700 — 475 Howe Street, Vancouver, British Columbia, Canada V6C 2B3 is our independent registered public accounting firm and has been appointed as our independent auditor.

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or person controlling the registrant in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been

settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

MATERIAL CONTRACTS

Our material contracts are described in the documents incorporated by reference into this prospectus. See “Publicly Available Information on XORTX” and “Documents Incorporated by Reference” above.

CERTAIN INCOME TAX CONSIDERATIONS

Material income tax consequences relating to the purchase, ownership and disposition of any of the Securities offered by this Prospectus will be set forth in the applicable Prospectus Supplement relating to the offering of those Securities. You are urged to consult your own tax advisors prior to any acquisition of our Securities.



XORTX Therapeutics Inc.

Up to \$3,701,931

Common Shares

PROSPECTUS SUPPLEMENT

H.C. Wainwright & Co.

November 29, 2023
