UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of October 2025

Commission File Number: 001-40858

XORTX THERAPEUTICS INC.

(Translation of registrant's name into English)

3710 – 33rd Street NW Calgary, Alberta T2L 2M1 Canada

(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

x Form 20-F "Form 40-F

INCORPORATION BY REFERENCE

Exhibits 99.2 and 99.3 to this report on Form 6-K are hereby incorporated by reference as an Exhibit to the Registration Statement on Form F-3 of XORTX Therapeutics Inc. (File No. 333-269429), as amended and supplemented.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

XORTX Therapeutics Inc.

(Registrant)

Date: October 31, 2025 By: /s/ Allen Davidoff

Name: Allen Davidoff

Title: President and Chief Executive Officer

Form 6-K Exhibit Index

Exhibit	De comment Describetion
Number	Document Description
<u>99.1</u>	Press Release of the Registrant, dated October 29, 2025
<u>99.2</u>	Opinion of Dentons Canada LLP, regarding legality of securities being registered
<u>99.3</u>	Opinion of Troutman Pepper Locke LLP, regarding the legality of the securities being registered



Source: XORTX Therapeutics Inc.

October 29, 2025 07:00 ET

XORTX Announces Closing of US\$1.1 Million Registered Direct Offering

CALGARY, Alberta, Oct. 29, 2025 (GLOBE NEWSWIRE) -- XORTX Therapeutics Inc. ("XORTX" or the "Company") (NASDAQ: XRTX | TSXV: XRTX | Frankfurt: ANU), a late-stage clinical pharmaceutical company focused on developing innovative therapies to treat gout and progressive kidney disease, announces that it has closed its registered direct offering announced on October 21, 2025, for the purchase and sale of 1,750,000 common shares (the "Common Shares") (or pre-funded warrants (the "Pre-Funded Warrants") in lieu thereof) in a registered direct offering (the "Offering") at a purchase price of US\$0.63 per common share.

In connection with the Offering, the Company entered into a definitive securities purchase agreement with an institutional investor pursuant to which the Company has issued 572,470 Common Shares and 1,117,530 Pre-Funded Warrants. Each Pre-funded Warrant will entitle the holder to acquire one common share at an exercise price of \$0.001 per share

The gross proceeds from the Offering were US\$1,102,500.00, before deducting placement agent fees and other offering expenses payable by the Company intends to use the net proceeds from the Offering for working capital and general corporate purposes.

D. Boral Capital LLC acted as sole placement agent for the Offering, and will be issued 87,500 agent warrants. Each agent warrant is exercisable into one Common Share of the Company at an exercise price of US\$0.69 per Common Share commencing 181 days following issuance, and has a term of eighteen months from the closing date.

The Common Shares (and Pre-Funded Warrants in lieu thereof) were issued in a registered direct offering pursuant to an effective shelf registration statement on Form F-3 (File No. 333-269429) previously filed with the U.S. Securities and Exchange Commission (the "SEC"), under the Securities Act of 1933, as amended (the "Securities Act"), and declared effective by the SEC on February 3, 2023. A final prospectus supplement describing the terms of the proposed registered direct offering was filed with the SEC and is available on the SEC's website located at http://www.sec.gov. Electronic copies of the prospectus supplement may be obtained, when available, from D. Boral Capital LLC, 590 Madison Avenue, 39th Floor, New York, NY 10022, or by telephone at +1 (212) 970-5150, or by email at info@dboralcapital.com.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About XORTX Therapeutics Inc.

XORTX is a pharmaceutical company with three clinically advanced products in development: 1) our lead program XRx-026 program for the treatment of gout; 2) XRx-008 program for ADPKD; and 3) XRx-101 for acute kidney and other acute organ injury associated with respiratory virus infections. In addition, the Company is developing XRx-225, a pre-clinical stage program for Type 2 diabetic nephropathy. XORTX is working to advance products that target aberrant purine metabolism and xanthine oxidase to decrease or inhibit production of uric acid. At XORTX, we are dedicated to developing medications that improve the quality of life and health of individuals with gout and other important diseases. Additional information on XORTX is available at www.vortx.com.

For more information, please contact:

Allen Davidoff, CEO <u>adavidoff@xortx.com</u> or +1 403 455 7727

Nick Rigopulos, Director of Communications nick@alpineequityadv.com or +1 617 901 0785

Neither the TSX Venture Exchange nor Nasdaq has approved or disapproved the contents of this news release. No stock exchange, securities commission or other regulatory authority has approved or disapproved the information contained herein.

Forward Looking Statements

This press release contains express or implied forward-looking statements pursuant to applicable securities laws. For example, the Company is using forward-looking statement in this press release when it discusses the intended use of proceeds and closing of the Offering. These forward-looking statements and their implications are based on the current expectations of the management of XORTX only, and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Except as otherwise required by applicable law and stock exchange rules, XORTX undertakes no obligation to publicly release any revisions to these forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. More detailed information about the risks and uncertainties affecting XORTX is contained under the heading "Risk Factors" in XORTX's Annual Report on Form 20-F filed with the SEC, which is available on the SEC's website, www.sec.gov (including any documents forming a part thereof or incorporated by reference therein), as well as in our reports, public disclosure documents and other filings with the securities commissions and other regulatory bodies in Canada, which are available on www.sec.argulus.ca.



Dentons Canada LLP 15th Floor, Bankers Court 850-2nd Street SW Calgary, AB, Canada T2P 0R8

dentons.com

October 23, 2025

XORTX Therapeutics Inc. 3710 – 33rd Street NW Calgary, Alberta, T2L 2M1

Re: XORTX Therapeutics Inc.
Prospectus Supplement to Registration Statement on Form F-3 (File No. 333-269429)

Ladies and Gentlemen:

We have acted as British Columbia counsel to XORTX Therapeutics Inc., a corporation organized under the laws of British Columbia (the "Corporation"), in connection with the preparation of a Prospectus Supplement (the "Prospectus Supplement") to a Registration Statement on Form F-3 (File No. 333-269429), as amended from time to time (the "Registration Statement") under the United States Securities Act of 1933, as amended (the "Securities Act"). The Prospectus Supplement relates to the issuance and sale (the "Offering") of an aggregate of:

- · 572,470 common shares of the Corporation, no par value per share (each, a "Share"); and
- 1,177,530 pre-funded warrants of the Corporation (each, a "Pre-funded Warrant"), each to purchase one common share in the capital of the Corporation (each, a "Pre-funded Warrant Share") at an exercise price of USD \$0.00001 per share.

We have examined and relied upon (i) the Registration Statement, (ii) the Prospectus Supplement, (iii) the Corporation's Certificate of Incorporation, Notice of Articles and Articles, as currently in effect, (iv) the certificates evidencing the Pre-funded Warrants (the "Pre-funded Warrant Certificates"), and (v) originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. In rendering our opinions set forth below, we have assumed: (a) the authenticity of all documents submitted to us as originals, (b) the genuineness of all signatures, (c) the conformity to the authentic originals of all documents submitted to us as copies, whether facsimile, photostatic, electronic, certified or otherwise, and the authenticity of the originals thereof, (d) that all facts, information, representation and warranties set forth in the records, documents and certificates we have reviewed, including official public records and certificates and other documents supplied by public officials or otherwise conveyed to us by public officials are complete, true and accurate as of, and at all material times prior to, the date of this opinion letter, (e) the due authorization, execution and delivery of all documents by all parties, other than the Corporation, and the validity, binding effect and enforceability thereof, (f) the legal capacity for all purposes relevant hereto of all persons (other than the Corporation), and (g) the issue price and exercise price, as applicable, for each Share, Pre-funded Warrant and Pre-funded Warrant Share has been set by the board of directors of the Corporation (the "Board") or the person, persons or committee duly authorized by the Board, prior to the issuance of any such Share, Pre-funded Warrant, and Pre-funded Warrant Share in accordance with the Business Corporations Act (British Columbia), the Articles and any applicable resolution or authori



dentons.com



As to any facts material to the opinions expressed herein which were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Corporation and others and of public officials. In our capacity as counsel to the Corporation in connection with the preparation of the Prospectus Supplement and the filing of the Registration Statement, we are familiar with the proceedings taken and proposed to be taken by the Corporation in connection with the authorization and issuance of the securities offered under the Prospectus Supplement. For purposes of this opinion, we have assumed that such proceedings will be timely and properly completed, in accordance with all requirements of the Applicable Law (as defined below), in the manner presently proposed.

We are qualified to practice law in the Province of British Columbia, and our opinion herein is limited to the statutes and regulations of the Province of British Columbia and the federal laws of Canada applicable therein now in effect (the "Applicable Law"). We express no opinion as to whether the laws of any particular jurisdiction other than those identified above are applicable to the subject matter hereof. We assume no obligation to revise or supplement this opinion should any applicable laws be changed subsequent to the date hereof by legislative action, judicial decision or otherwise or if there is a change in any fact or facts after the date hereof. Where our opinion refers to any of the securities or shares as being "fully paid and non-assessable," no opinion is expressed as to actual receipt by the Corporation of the consideration for the issuance of such shares or as to the adequacy of any consideration received.

Based on and subject to the foregoing assumptions and qualifications we are of the opinion that:

- 1. when issued and paid for, in such amounts as determined pursuant to the Pricing Resolutions, as contemplated in the Prospectus Supplement in accordance with the terms of the Securities Purchase Agreement between the Corporation and the purchaser dated October 21, 2025, and subject to receipt of all necessary approvals from the TSX Venture Exchange, the Shares will be validly issued, fully paid and non-assessable common shares of the Corporation; and
- 2. upon exercise of the Pre-funded Warrants in accordance with the terms of the applicable Pre-funded Warrant Certificate, including payment of the exercise price thereof, the Pre-funded Warrant Shares will be validly issued, fully paid and non-assessable common shares of the Corporation.

We hereby consent to the use of our name in, and the filing of this opinion as an exhibit to, a report on Form 6-K, and to the reference to our firm under the headings "Legal Matters" in the Prospectus Supplement. In giving this consent, we do not thereby admit that we are in the category of persons whose consent is required under the Securities Act or the rules and regulations promulgated thereunder. This opinion is expressed as of the date hereof unless otherwise expressly stated, and we disclaim any undertaking to advise you of any subsequent changes of the facts stated or assumed herein or any subsequent changes in Applicable Law.

Yours very truly,

Signed "Dentons Canada LLP"

Dentons Canada LLP

Troutman Pepper Locke LLP 111 Huntington Avenue, 9th Floor Boston, MA 02199-7613

troutman.com



October 23, 2025

XORTX Therapeutics Inc. 3710 – 33rd Street NW Calgary, Alberta, T2L 2M1 Canada

Re: XORTX Therapeutics Inc. - Prospectus Supplement to Registration Statement on Form F-3 (File No. 333-269429)

Ladies and Gentlemen:

We have acted as United States counsel to XORTX Therapeutics Inc., a corporation organized under the laws of British Columbia, Canada (the "Company"), in connection with a Prospectus Supplement to a Registration Statement on Form F-3 (File No. 333-269429) (the "Prospectus Supplement") filed by the Company with the United States Securities and Exchange Commission (the "Commission") under the United States Securities Act of 1933, as amended (the "Securities Act"), relating to the offer and sale by the Company of an aggregate of 572,470 common shares of the Company, no par value per share (the "Shares"), and 1,177,530 pre-funded warrants to purchase an aggregate of 1,177,530 common shares at an exercise price of \$0.00001 per share (each, a "Pre-Funded Warrant"), exercisable until such time as the Pre-Funded Warrants are exercised in full, subject to adjustment as provided in the Pre-Funded Warrants, pursuant to that certain Securities Purchase Agreement, dated October 21, 2025 (the "Securities Purchase Agreement"), between the Company and the purchaser signatory thereto.

This opinion letter is furnished to you for filing with the Commission pursuant to Item 601 of Regulation S-K, promulgated under the Securities Act.

We have examined such documents and have reviewed such questions of law as we have considered necessary or appropriate for the purposes of our opinions set forth below. In rendering our opinions set forth below, we have assumed the authenticity of all documents submitted to us as originals, the genuineness of all signatures and the conformity to authentic originals of all documents submitted to us as copies. We have also assumed the legal capacity for all purposes relevant hereto of all natural persons and, with respect to all parties to agreements or instruments relevant hereto, that such parties had the requisite power and authority (corporate or otherwise) to execute, deliver and perform such agreements and instruments, that such agreements and instruments have been duly authorized by all requisite action (corporate or otherwise), executed and delivered by such parties and, except to the extent expressly stated in the opinions contained herein, that such agreements and instruments are the valid, binding and enforceable obligations of such parties. As to questions of fact material to our opinions, we have relied upon certificates or comparable documents of officers and other representatives of the Company and of public officials.

XORTX Therapeutics Inc.

October 23, 2025

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Based on the foregoing, and assuming that (i) the Registration Statement and all amendments thereto (including post-effective amendments) is and will continue to be effective under the Securities Act, (ii) the Company is duly incorporated and is validly existing and in good standing under the laws of the jurisdiction of its organization, (iii) the Securities Purchase Agreement and the Pre-Funded Warrants will or have been duly authorized and validly executed and delivered by the Company, (iv) any common shares issuable upon exercise of the Pre-Funded Warrants being offered or sold will or have been be duly authorized, created and, if appropriate, reserved for issuance upon such exercise, and (v) the issuance of the Pre-Funded Warrants and any common shares issuable upon exercise thereof have been or will be done in compliance with all applicable Canadian corporate law, we are of the opinion that the Pre-Funded Warrants, when issued and delivered against payment of the consideration therefor, as contemplated in the Prospectus Supplement and in accordance with the terms of the Securities Purchase Agreement, will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

Our opinions set forth above are subject to the following qualifications and exceptions:

- (a) Our opinions set forth above are subject to the effect of any applicable bankruptcy, insolvency, reorganization, moratorium or similar law relating to or affecting creditors' rights generally (including, without limitation, fraudulent conveyance laws).
- (b) Our opinions set forth above are subject to the effect of general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance or injunctive relief, regardless of whether considered in a proceeding in equity or at law
- (c) We express no opinion as to the enforceability of (i) provisions that relate to choice of law, forum selection or submission to jurisdiction (including, without limitation, any express or implied waiver of any objection to venue in any court or of any objection that a court is an inconvenient forum), (ii) waivers by the Company of any statutory or constitutional rights or remedies, (iii) terms which excuse any person or entity from liability for, or require the Company to indemnify such person or entity against, such person's or entity's negligence or willful misconduct or (iv) obligations to pay any prepayment premium, default interest rate, early termination fee or other form of liquidated damages, if the payment of such premium, interest rate, fee or damages may be construed as unreasonable in relation to actual damages or disproportionate to actual damages suffered as a result of such prepayment, default or termination.

XORTX Therapeutics Inc.

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(d) We draw your attention to the fact that, under certain circumstances, the enforceability of terms to the effect that provisions may not be waived or modified except in writing may be limited.

Our opinions expressed above are limited to the corporate laws of the State of New York.

We are furnishing this opinion in connection with the filing of the Prospectus Supplement, and hereby consent to the reference to our firm under the headings "Legal Matters" in the Prospectus Supplement. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,	
/s/ Troutman Pepper Locke LLP	
Troutman Pepper Locke LLP	