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 June 2025

Commission File Number: 001-40858

XORTX Therapeutics Inc.

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

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

SIGNATURE

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: June 26, 2025

By: */s/ Allen Davidoff*
Name: Allen Davidoff
Title: Chief Executive Officer

EXHIBIT INDEX

99.1	News release dated June 26, 2025

EXHIBIT 99.1

XORTX Announces USD $925,000 Private Placement

NOT FOR DISTRIBUTION TO UNITED STATES NEWS WIRE SERVICES
OR FOR DISSEMINATION IN THE UNITED STATES

CALGARY, Alberta, June 26, 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 a non-brokered private placement to raise up to USD $925,000 through the issuance of up to 1,267,123 common share units of the Company at a price of USD $0.73 per unit (the "**Offering**"). Each Unit will comprise one common share and one common share purchase warrant (a "**Warrant**"). Each Warrant will entitle the holder, on exercise, to purchase one additional common share in the capital of the Company, at a price of USD $1.20 per Warrant until the close of business on the day which is 60 months from the Closing Date, provided, however, that if the closing price of the common shares on the Nasdaq is greater than USD $2.00 for 10 or more consecutive trading days, the Warrants will be accelerated and the Warrants will expire on the 30th business day following the date of such notice.

Subject to compliance with applicable regulatory requirements and in accordance with National Instrument 45-106 – Prospectus Exemptions ("**NI 45-106**"), the Units will be offered for sale to purchasers resident in Canada, except Quebec, and/or other qualifying jurisdictions pursuant to the listed issuer financing exemption under Part 5A of NI 45-106 (the "**Listed Issuer Financing Exemption**"). Because the Offering is being completed pursuant to the Listed Issuer Financing Exemption, the securities issued in the Offering will not be subject to a hold period pursuant to applicable Canadian securities laws.

There is an offering document related to the Offering that can be accessed under the Company's profile at www.sedarplus.ca and on the Company's website at https://www.xortx.com/. Prospective investors should read this offering document before making an investment decision.

The Company may pay finder's fees on a portion of the Offering in accordance with applicable securities laws and the policies of the TSX Venture Exchange. The securities issued pursuant to the Offering have not been registered under the Securities Act. Accordingly, the Units acquired by investors in the United States will be "restricted securities" (as defined in Rule 144 under the Securities Act), subject to restrictions on resale under the Securities Act, until registered under the Securities Act.

The net proceeds from the Offering will be used to advance XORTX's programs for gout and for working capital and general corporate purpose.

The closing date of the Offering is expected to occur on or about July 4, 2025, or such later date or dates as the Company may determine, and is subject to certain conditions including, but not limited to, the receipt of all necessary approvals, including approval from the TSX Venture Exchange.

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.xortx.com.

For more information, please contact:

Allen Davidoff, CEO
adavidoff@xortx.com 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. These forward-looking statements include, but are not limited to, the Company's beliefs, plans, goals, objectives, expectations, assumptions, estimates, intentions, future performance, other statements that are not historical facts and statements identified by words such as "expects", "anticipates", "intends", "plans", "believes", "seeks", "estimates" or words of similar meaning. 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. Such risks, uncertainties, and other factors include, but are not limited to, the use of the net proceeds of the Offering; the terms of the Offering; the timing and completion of the Offering; and the receipt of regulatory, stock exchange and other required approvals in connection with the Offering, 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; 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; and, our ability to obtain and maintain intellectual property protection for our product candidates. 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.sedarplus.ca.