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**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 September 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 ☒ Form 40-F ☐

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**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: September 4, 2025

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

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**EXHIBIT INDEX**

99.1   News release dated September 4, 2025

## Join XORTX for an Exclusive Live Investor Webinar and Q&A Session on September 10

CALGARY, Alberta, Sept. 04, 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, is pleased to invite investors to a webinar and Q&A session on September 10, 2025, at 4:15 pm ET.

The exclusive event, hosted by RedChip Companies, will feature Dr. Allen Davidoff, founder and CEO of XORTX, who will discuss the Company’s mission to deliver innovative treatments for underserved cardiorenal indications. Dr. Davidoff will highlight XRx-026 (XORLO™), XORTX’s late-stage lead program for allopurinol-intolerant gout, with a New Drug Application (NDA) filing targeted for the first half of 2026. Dr. Davidoff will also review XRx-008, a promising candidate for autosomal dominant polycystic kidney disease (ADPKD) with orphan designation potential, along with additional programs in acute kidney injury (XRx-101) and diabetic nephropathy (XRx-225). With an estimated USD \$700 million per year market opportunity for XORLO™ and a diversified pipeline addressing multi-billion-dollar renal markets, XORTX is positioned for substantial value creation.

A live Q&A session with management will follow the presentation.

To register for the free webinar, please visit: <https://www.redchip.com/webinar/XRTX/85420661663>

Questions can be pre-submitted to [XRTX@redchip.com](mailto:XRTX@redchip.com) or online during the live event.

### 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](http://www.xortx.com).

For more information, please contact:

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*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 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](http://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](http://www.sedarplus.ca).