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 2023

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)

<u>/s/ Allen Davidoff</u> Allen Davidoff Chief Executive Officer By: Name: Title:

Date: September 7, 2023

EXHIBIT INDEX

XORTX Joins the Kidney Foundation and Kidney March

• In Support of Research for Treating the 4 Million Canadians Who Have Chronic Kidney Disease Today •

CALGARY, Alberta, Sept. 07, 2023 (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 progressive kidney disease, is pleased to announce its participation September 8th through 10th, in the Kidney Foundation's "Kidney March", in support of the almost 4 million Canadians who have chronic kidney disease today.

The Company is pleased to participate in this important annual event which supports fund raising to further basic kidney research, and to join the kidney disease support community. This year XORTX has committed to support the Kidney March through sponsorship of Sunday "Kidney March" events and closing ceremonies of the "Kidney March". Details on the Kidney Foundation and the Kidney March are included in the following links - https://kidney.ca/ and https://kidneymarch.ca/basics/

Dr. Allen Davidoff, XORTX's CEO stated, "Our efforts this week in support of the Kidney Foundation of Canada is a small contribution, to address a much larger, growing, global problem. It is notable that kidney disease is estimated to affect almost 1 in 7 individuals and because symptoms are few, diagnosis often occurs in mid to late stage of disease. More concerning is an estimated rate of new chronic kidney disease that exceeds 10% per year and doubling the number of cases each decade. Because few therapeutic options exist for individuals with progressing kidney disease, we believe that XORTX' focus on the development of therapies to slow progression of kidney disease has the potential to improve patient outcomes and quality of life. We encourage everyone to visit the Kidney Foundation of Canada to understand how you can be a part of the solution."

About the Kidney Foundation of Canada

Since 1964, the Kidney Foundation of Canada has been guided by three fundamental principles: innovation, leadership, and collaboration toward the promotion of excellent kidney health, optimal quality of life for those affected by kidney disease, and a cure. The Kidney Foundation of Canada is the leading charity committed to eliminating the burden of kidney disease through: Funding and stimulating innovative research for better prevention, treatments and a cure; Providing education and support to prevent kidney disease in those at risk and empower those with kidney disease to optimize their health status; Advocating for improved access to high quality health care; Increasing public awareness and commitment to advancing kidney health and organ donation. https://kidney.ca/About-Us/Overview/Our-Mission

About XORTX Therapeutics Inc.

XORTX is a pharmaceutical company with two clinically advanced products in development: 1) our lead, XRx-008 program for ADPKD; and 2) our secondary program in XRx-101 for acute kidney and other acute organ injury associated with Respiratory Viral infection. In addition, XRx-225 is a pre-clinical stage program for Type 2 Diabetic Nephropathy. XORTX is working to advance its clinical development stage 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 to improve the quality of life and future health of patients with kidney disease. Additional information on XORTX is available at 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 U.S. Federal securities laws. 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 law, 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 Registration Statement on Form F-1 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.