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 November 2022

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 [ ]

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):___

Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):___

Note: Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

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: November 3, 2022

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

EXHIBIT INDEX

99.1	News Release dated November 3, 2022

EXHIBIT 99.1

XORTX Presents New Proof of Concept Data at American Society of Nephrology

• Xanthine Oxidase Inhibition with XRx-008 Blocks Uric Acid Induced Increase in Total Kidney Weight in Polycystic Kidney Disease •

CALGARY, Alberta, Nov. 03, 2022 (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 the presentation of a peer-reviewed abstract to be presented November 4, 2022 at the American Society of Nephrology ("ASN") Annual Conference – Kidney Week. The abstract presents new discoveries in two species – mouse and rat models of polycystic kidney disease ("PKD") and reports original work showing the harmful consequence of chronically increased uric acid on both structure and function of kidneys. The Abstract "Raising Serum Uric Acid with a Uricase Inhibitor Worsens PKD in Rat and Mouse models" will be presented during the Session Title: Genetic Diseases of the Kidneys, by Dr. Charles Edelstein of the University of Colorado and Dr. Allen Davidoff, CEO of XORTX. **This presentation will report for the first time, that XORTX's XRx-008 formulation of Xanthine Oxidase inhibitor can substantially and significantly block the increase in kidney size associated with high circulating uric acid in a rodent model of polycystic kidney disease.**

The abstract presents the findings of studies conducted at the University of Colorado, by Dr. Charles Edelstein and the PKD research team. Results of this study, in two models of PKD, show similar results and reach similar conclusions, confirming that increasing uric acid by inhibiting uricase enzyme metabolism of uric acid to allantoin, results in substantially and statistically significant increases in:

i. Total kidney / body weight ratio – indicating the possibility of accelerated formation or growth of cysts and represents a measure analogous to total kidney volume measures in humans with PKD;
ii. Creatinine, supporting the concept of a decrease in filtering capacity of kidneys;
iii. Cyst index is increased, suggesting uric acid may act to specifically accelerate disease progression in PKD; and
iv. Xanthine oxidase inhibition with XRx-008 decreases total kidney weight in a model of polycystic kidney disease.

In summary, increasing serum uric acid by inhibiting uricase with oxonic acid ("OXO") results in an increase in kidney weight, and decreased kidney function in rodent models of PKD. Xanthine oxidase inhibition with XRx-008 blocks this mechanism of injury in Rodent PKD.

Dr. Allen Davidoff, CEO of XORTX, stated, "We are pleased to present these important new findings during the ASN Kidney Week 2022. The results of this study show that increased serum uric acid can accelerate injury in two separate models of PKD and importantly reports fundamental findings in support of the Company's XRx-008 program. With these results presented today, XORTX now has the information required to prepare and pursue Orphan Drug Designation for XRx-008."

About this Study

Unlike most forms of life, humans lack an active uricase enzyme that converts uric acid to allantoin. In rodents, uricase converts uric acid to allantoin and uricase inhibition raises serum uric acid. The aim of this study was to determine whether raising serum uric acid with OXO was associated with worse PKD.

About the American Society of Nephrology – Kidney Week

ASN represents more than 21,000 kidney health professionals working to help people with kidney diseases and their families. Source: https://www.asn-online.org/.

The Kidney Week Conference is attended by approximately 10,000 kidney professionals from across the globe at Kidney Week 2022 in Orlando, Florida. The world's premier nephrology meeting, Kidney Week provides participants exciting and challenging opportunities to exchange knowledge, learn the latest scientific and medical advances, and listen to engaging and provocative discussions with leading experts in the field. Source: https://www.asn-online.org/education/kidneyweek/.

American Society of Nephrology – Program and Abstracts

The Kidney Week program and abstracts are available on the ASN website.

About ADPKD

ADPKD is a rare disease that affects more that 10 million individuals worldwide.[1,2] ADPKD is typically diagnosed based upon expansion of fluid-filled cysts in the kidneys. Over time, the increasing number and size of cysts can contribute to structural and functional changes to kidneys and is frequently accompanied by chronic pain which is a common problem for patients with ADPKD.[3] Expansion of cysts is thought to compress healthy functioning tissue surrounding the cysts and contribute to further loss of kidney function, fibrosis, impaired nutrient exchange and impaired kidney function, accompanied later by end-stage renal disease.[1] Health consequences of high uric acid have been reported to be increased in ADPKD individuals, including increased incidence of kidney stones[5] and gout.[6,7] For individuals with progressing ADPKD, treatment recommendations include anti-hypertensive treatment, dietary restrictions, and, for a limited percentage of suitable patients, pharmacotherapy.[4] New, more broadly applicable therapies to effectively slow decline of kidney function in ADPKD are needed.

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 Coronavirus / COVID-19 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. Additional information on XORTX is available at www.xortx.com.

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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.

References:

1. Wiley C., Kamat S., Stelhorn R., Blais J., Analysis of nationwide date to determine the incidence and diagnosis of autosomal dominant polycystic kidney disease in the USA, Kidney Disease, 5(2): 107-117, 2019
2. Bergmann C., Guay-Woodford L.M., Harris P.C., Horie S., Peters D.J., Torres V.E., Polycystic Kidney Disease, Nat Rev Dis Primers. 4(1): 50, 2018
3. https://pkdcure.org/living-with-pkd/chronic-pain-management
4. Gimpel C., Bermann C., Bockenhauer D., et al., International consensus statement of the diagnosis and management of autosomal dominant polycystic kidney disease in children and young people, Nat Rev Nephrol 15(11):713-726, 2019
5. Torres VE, et al, The Association of Nephrolithiasis and Autosomal Dominant Polycystic Kidney Disease, Am J Kidney Dis, 1988, vol 11, 318-325
6. Newcombe, DS. Letter Gouty Arthritis and polycystic kidney disease, Ann Intern Med, 1973 vol 79, pg 605
7. Rivera JV Martinez, et al, Association of hyperuricemia and polycystic kidney disease, Bol Asoc Med P R, 1965 vol 7 251-263

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.sedar.com.