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XORTX Announces Presentation at American Society of Nephrology – Kidney Week 2024

Health consequences of over active xanthine oxidase may accelerated PKD progression

CALGARY, Alberta, Aug. 20, 2024 (GLOBE NEWSWIRE) -- **XORTX Therapeutics Inc. ("XORTX" or the "Company") (NASDAQ: XRTX | TSXV: XRTX | Frankfurt: ANUA),** a late-stage clinical pharmaceutical company focused on developing innovative therapies to treat progressive kidney disease, is pleased to announce the acceptance of an abstract submitted to the American Society of Nephrology (the "ASN"). The abstract entitled **"Xanthine oxidase in rats, mice and humans with polycystic kidney disease"** was reviewed by the ASN review panel for scientific merit and novel discoveries. The study was conducted at the University of Colorado in the independent laboratory of Dr. Charles Edelstein and was sponsored by XORTX and will be presented during the Session Title: Genetic Diseases: Cystic - Therapeutic Investigations and Prognosis.

About this study

The xanthine oxidase ("XO") enzyme is an essential enzyme within the uric acid pathway, and is required for the breakdown of purine nucleotides. Uric acid as well as reactive oxygen species released during the enzymatic reaction may also play a detrimental role in the circulatory system and within tissue during disease. Recent pioneering discoveries in rodent models of polycystic kidney disease ("PKD") implicate over expression or over activity of XO. It is currently unknown if XO over expression or over activity in humans is associated with PKD or more rapid progression of disease. The aim of the study was to gain insight into whether increased XO activity results in cyst growth, XO activity was measured in PCK^{1} rats, $PKD1^{RC/RC}$ (RC) mice and 34 patients from the HALT-PKD Clinical study.

The abstract outlines study results from mouse, rat and human studies of PKD. The purpose of the study was to gain an understanding of serum xanthine oxidase activity (XOa) in PKD during varied stages of disease and further to relate that activity to total kidney volume, and decline of glomerular filtration rate (GFR). The results of the study provide understanding of where aberrant purine metabolism in PKD tissue due to sources XO enzyme may contribute to circulating uric acid levels, expansion rate of kidney and cyst and functional GFR decline. Prior study results suggested over expression of XO in PKD kidney tissue may be a feature of cystic disease. XORTX will provide a further update on the results of the study during the first week of November.

Dr. Allen Davidoff, CEO of XORTX, stated, "We are pleased to once again be presenting

pioneering studies in PKD due to ADPKD at the American Society of Nephrology annual meeting during Kidney Week 2024 with this poster presentation. Most importantly, results of this study deepen our understanding of how increased serum uric acid or aberrant kidney tissue expression of XO contribute to accelerate injury using data from mouse, rat and human studies of PKD. The XRx-008 program continues to pioneer our understanding of how too much or too active xanthine oxidase may result in a health consequence in 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 other kidney professionals from across the globe at Kidney Week 2024 in Orlando, Florida. The world's premier nephrology meeting, Kidney Week provides participants with 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 is available on the ASN website. Abstracts will be available on the ASN website by October 14, 2024.

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.

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., Bergmann 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

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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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 (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.

Source: XORTX Therapeutics Inc.