
**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 March 2022

Commission File Number: 001-40858

XORTX Therapeutics Inc.

Suite 2400 - 745 Thurlow Street, Vancouver, British Columbia, Canada, V6E 0C5

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

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.

SIGNATURES

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: March 23, 2022

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

EXHIBIT INDEX

99.1 [News Release dated March 23, 2022](#)

XORTX Files New PCT Patent to Treat and Protect Individuals Most at Risk to Severe Viral Infection

Compositions and Methods for Enhancing Anti-Viral Therapies

CALGARY, Alberta, March 23, 2022 (GLOBE NEWSWIRE) -- XORTX Therapeutics Inc. ("XORTX" or the "Company") (NASDAQ: XRTX | TSXV: XRTX | Frankfurt: ANU), a pharmaceutical therapeutics company focused on developing innovative therapies to treat progressive kidney disease, with late-stage clinical programs, announces the submission of a Patent Cooperation Treaty (PCT) patent application seeking international patent protection for the patent entitled "**Compositions and Methods for Enhancing Anti-Viral Therapies**".

This patent is based on retrospective clinical data from XORTX scientific partners suggesting that an important therapeutic opportunity lies with addressing aberrant purine metabolism combined with hyperuricemia in patients most at risk to severe COVID-19 outcome. Since the advent of COVID-19 and during 2020, accumulating evidence suggests that individuals most at risk for more severe health consequences fall within a group that includes individuals with obesity, hypertension, metabolic syndrome, insulin resistance, pre-diabetes, diabetes or chronic kidney disease. These individuals have a higher incidence of hyperuricemia and endothelial dysfunction. Low grade systemic inflammation associated with these disease states and pre-existing vascular injury may suppress an individual's ability to respond with a sufficiently robust response to fight infection and leaves the individual more prone to excessive pro-inflammatory and pro-coagulative state. This new patent filing proposes compositions of xanthine oxidase inhibitors, uric acid lowering agents and/or anti-viral agents alone or in combination, and methods for enhancing anti-viral therapies for the treatment of individuals most at risk.

Recent peer reviewed publications suggest that individuals with hyperuricemia appear to have an increased susceptibility to develop more severe sepsis associated with COVID-19 infection. Recent studies of Coronavirus infections show that SARS and MERS and specifically COVID-19 can be frequently accompanied by pneumonia, acute kidney injury, proteinuria and hematuria^{1,2}. Viral load during infection has been reported to be associated with more severe symptoms.³ Acute kidney injury ("AKI") has been identified as an independent risk factor for patients' in-hospital mortality due to COVID-19 as well as other Coronavirus infections². Associated with modest to severe COVID-19 infection is an increased risk of a hyper-inflammatory state, increased pro-coagulative state and bacterial infection - each can contribute to acute organ injury, and death. A higher incidence of bacterial or fungal infection is also associated with high mortality.⁴ Recent study results suggest that uric acid lowering can inhibit SARS-CoV-2 replication a finding that supports the clinical use of uric acid lowering agents to control SARS-CoV-2 infection in humans.⁵

The Company is not making any express or implied claims that it has the ability to eliminate, cure or contain the COVID-19 coronavirus at this time.

About XORTX Therapeutics Inc.

XORTX Therapeutics Inc. is a pharmaceutical therapeutics company with clinically advanced products in development – XRx-008 for Autosomal Dominant Polycystic Kidney Disease (ADPKD), XRx-101 for Coronavirus / COVID-19 infection and XRx-221 is a clinical stage program for Type 2 Diabetic Nephropathy (T2DN). The Company has strong intellectual property rights and established proof of concept through independent clinical studies. XORTX is working to advance its clinical development stage products that target xanthine oxidase to inhibit production of uric acid. At XORTX Therapeutics, we are dedicated to developing medications to improve the quality of life and future of patients. Additional information on XORTX Therapeutics is available at www.xortx.com.

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The TSX Venture Exchange and Nasdaq have neither approved nor 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. Saraladevi Naicker, Chih-Wei Yang, Shang-Jyh Hwang, Bi-Cheng Liu, Jiang-Hua Chen, Vivekan and Jha, The Novel Coronavirus 2019 Epidemics and Kidneys, *Kidney International* March 2, 2020. [https://www.kidney-international.org/article/S0085-2538\(20\)30251-9/pdf](https://www.kidney-international.org/article/S0085-2538(20)30251-9/pdf).
2. Cheng, Y, Luo R., Wang K., Zhang M., Wang Z., Dong L., Li J, Yao Y., Ge S., Xu g., *Kidney Impairment is associated with in-hospital deal of COVID-19 patients*, medRxiv, March 04, 2020 <https://www.medrxiv.org/content/10.1101/2020.02.18.20023242v1>.
3. Stankiwicz HC et al *Trajectory of Viral RNA Load Among Persons with SARS-CoV-G614 Infection in Association with COVID-19 Symptom Onset and Severity* *JAMA* Jan 2022
4. Zhou P et al *Bacterial and fungal infections in COVID-19 patient* *Infection Control & Hospital Epidemiology* 1 2020
5. Murray J et al *Probenecid inhibits SARS-CoV-2 replication in vivo and in vitro* *Nature* (11) 18085 2021

Forward Looking Statements

This press release may contain express or implied forward-looking statements pursuant to Canadian and U.S. Federal securities laws. These forward-looking statements and their implications are based on the current reasonable 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 such forward-looking statements. Except as otherwise required by law, XORTX undertakes no obligation to publicly release any revisions or updates 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 in the Company's most recently filed Annual Information Form and the Management Discussion and Analysis for its most recent financial reporting period filed on the Company's SEDAR profile (www.sedar.com) and under the heading "Risk Factors" in XORTX's Registration Statement on Form F-1 filed with the Securities and Exchange Commission ("SEC") available on the SEC's website, www.sec.gov.