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# XORTX Shares Nature Nephrology Review

## Clinical Studies Confirm Causal Relationship Between Uric Acid and Chronic Kidney Disease

CALGARY, Alberta, July 15, 2019 (GLOBE NEWSWIRE) -- XORTX Therapeutics Inc. ("XORTX" or the "Company") (CSE: XRX; OTCQB: XRTXF; ANU1: FWB), a biopharmaceutical company focused on developing innovative therapies to treat progressive kidney disease, is pleased to recognize and highlight a recent Nature Nephrology Review article written by a global alliance of Nephrologists and thought leaders. This important paper provides a compelling review of current knowledge demonstrating the harmful role of uric acid on the cardiovascular system and the progressive decline in kidney function. The article also summarizes more than 10 clinical studies in man that support the conclusion that increased uric acid plays a causal relationship in development of chronic kidney disease and that decreasing uric acid has the effect of slowing or reversing kidney disease progression. Importantly, the relationship between uric acid and kidney dysfunction seems especially pronounced in individuals with diabetes and concludes that increased serum uric acid levels should be measured as a first step and necessitates treatment. An abstract of the article is available on this link: <https://www.nature.com/articles/s41581-019-0174-z>.

Dr. Allen Davidoff, CEO of XORTX stated, "This publication clearly highlights the deleterious effects of uric acid on kidney health and by summarizing the clinical evidence that decreasing uric acid in patients with progressive kidney disease has tremendous potential to help individuals slow or reverse decline of kidney function. Importantly, this paper emphasizes that for medical community steps as simple as measuring uric acid in patients can have a meaningful impact on further understanding the impact of hyperuricemia. This is especially true in diabetes where clinical evidence suggests that uric acid lowering and management can slow or reverse kidney disease progression in a clinically meaningful way preserving healthy kidney function and quality of life. For XORTX, this paper strongly supports the Company's vision and focus on developing therapies to redefine how kidney disease is treated in the future."

The paper outlines that in the past decade evidence has steadily accumulated to show that intermittent<sup>1</sup> or chronically increased serum uric acid could act to cause injury through generation of uric acid crystals in the circulatory system or even in the absence of crystals<sup>2</sup>. Evidence for the harmful action of uric acid is greatest in the cardiovascular system where injury to blood vessels in the form of inflammation, fibrosis and endothelial dysfunction contributes to high blood pressure and progressing vascular disease<sup>3</sup>. Secondly, inside cells and more specifically in the kidneys, uric acid is a bad actor inducing inflammations, tubular injury<sup>4-6</sup> and loss of kidney function over time and is distinctly different from the gout response.

Similarly, several other reviews add to the recognition that increased serum uric acid is an

independent risk factor for progression in polycystic kidney disease (ADPKD)<sup>7</sup>, type 1 diabetic nephropathy<sup>8</sup> (T1DN) and type 2 diabetic nephropathy (T2DN)<sup>9</sup>.

The paper concludes, “In recent years, a compelling body of evidence has emerged, both experimental and clinical, that links hyperuricemia directly with the development and progression of CKD [chronic kidney disease]. In view of this, we would argue, that hyperuricaemia has a detrimental impact on kidney function and that treatment of so-called “asymptomatic hyperuricaemia” to slow or delay the progression of CKD should be a key management strategy. However, important Clinical studies are needed to characterize and advance the development of an optimized treatment strategy for individuals with progressing kidney disease regardless of etiology [initiating associated disease].”<sup>10</sup>

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#### **About XORTX Therapeutics Inc.**

XORTX Therapeutics Inc. is a biopharmaceutical company focused on developing innovative therapies to treat progressive kidney disease. XORTX has two lead programs to develop treatments for progressive kidney disease due to diabetes, diabetic nephropathy and polycystic kidney disease. XORTX’s XRx-008 (a proprietary reformulation of Oxypurinol) is a late stage drug development program to treat autosomal dominant polycystic kidney disease (ADPKD) and TMX-049, is a late phase 2b stage program to treat type 2 diabetic nephropathy (T2DN), under a co-development agreement with Japan’s Teijin Pharma Limited, pursuant to a non-binding Letter of Intent. Secondary programs focus on developing therapies for health consequences that accompany pre-diabetes, diabetes and

cardiovascular disease. Additional information on XORTX Therapeutics is available at [www.xortx.com](http://www.xortx.com).

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