



03020: Novel Biomarker and Therapeutic Target for Chronic Kidney Disease in Dogs

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Total Grant Amount: \$47,622 Grant Period:

5/1/2022 - 4/30/2025

Chronic kidney disease (CKD) is commonly encountered in small animal practice and affects up to 20% of all dogs. It is widely accepted that most dogs with stage II or greater CKD will progress to end-stage renal failure. Early detection of CKD and potential therapeutic targets in the early stages of the disease remains extremely challenging.

Management of CKD in dogs has largely been focused on supportive therapy with very few new therapies available to treat CKD that improve outcomes. Several clinical trials in humans indicate that correction of metabolic acidosis with alkali therapy slows the progression of CKD even in patients without metabolic acidosis, suggesting that acid-mediated kidney injury might occur even in the setting of normal total bicarbonate in patients with CKD (referred to as subclinical metabolic acidosis). Furthermore, recent studies in humans have shown that CKD patients with lower ammonia excretion have a significantly higher risk of developing end-stage renal disease, metabolic acidosis, or death when compared to CKD patients with higher ammonia excretion. This suggests that quantification of urinary acid excretion, particularly ammonia, may be a useful guide to identify those with subclinical metabolic acidosis that are at high risk of overt metabolic acidosis and poor outcomes and could benefit from oral alkali therapy. The primary purpose of this study is to determine if urinary ammonia excretion correlates with renal function and is associated with the development of metabolic acidosis or long-term clinical outcomes in dogs with CKD.

Contribution: \$2,500

Commitment Date: 3/25/2023