

**MAF D22CA -814 - Investigating a Novel Antimicrobial Strategy for UTI**

**Investigator** Jose Hernandez, PhD, Midwestern University

**Start Date:** TBA

**Projected Duration:** 1 Year

**Study Cost:** \$10,800

**DCAF Grant** \$4,000

**1/2022**

**SUMMARY:** Researchers will isolate novel antimicrobials from natural products, including plants, and test their ability to inhibit bacteria growth responsible for urinary tract infections.

**DESCRIPTION:** An estimated 14% of dogs and 29% of older cats are diagnosed with bacterial urinary tract infections in their lifetime. Antimicrobial therapy is the main treatment for UTIs but sometimes fall short, especially in cases of antibiotic-resistant bacteria. Researchers will explore a new antimicrobial strategy to help in the fight against these outbreaks. The team will identify small molecules isolated from natural products, including plants, that may disrupt iron metabolism. Studies indicate metals, including iron and zinc, may be micronutrients (food) for microorganisms, like bacteria. The team will test the ability of these molecules to inhibit growth of two bacterial species commonly associated with urinary tract infections in dogs and cats. Findings will inform the development of novel treatments for UTIs and may provide veterinarians with alternative antimicrobial options for their patients.