

2022 George Sydney and Phyllis Redman Miller Trust Grant Awards

Total Awarded \$233,284

MT22-019: "Curbing FIP by targeting and blocking the viral ion channels." Principal Investigator(s): Gary Whittaker; Isiah Arkin, Cornell University. \$34,962

FIP and COVID are closely related coronaviruses, and many drugs can be used to treat both diseases. This study leverages the strengths of a well-known human lab studying COVID with a premier veterinary lab at the forefront of FIP research to discover novel drugs that inhibit the virus' ion channels, which regulate infectivity, to develop new therapeutic drug combinations.

MT22-020: "Establishment of feline keratinocyte organoids and use as a model to study feline dermatophytosis." Principal Investigator(s): Dominique Wiener, Texas A&M University. \$35,000

Ringworm is a common fungal skin infection of cats that is not well understood. But infecting cats to study this disease is not ideal. This study will develop skin "organoids" from feline skin stem cells to enable researchers to study this disease without the use of research cats.

MT22-021: "Immediate Intervention Following Tooth Extraction Using Allogeneic Adipose-Derived Mesenchymal Stem Cell Therapy for Cats with Chronic Gingivostomatitis: A Randomized, Controlled and Blinded Study." Principal Investigator(s): Boaz Arzi, Maria Soltero-Rivera; University of California-Davis School of Veterinary Medicine. \$27,392

This study is a continuation of previous research funded by EveryCat that developed a highly effective stem cell treatment for Stomatitis, a painful inflammation of the mouth in cats. By giving stem cells immediately after tooth extractions, it is expected to hasten the response to this treatment and improve their quality of life.

MT22-025: "Continuous rate infusion thrombolysis with tissue plasminogen activator, pentoxifylline and cyproheptadine in acute feline aortic thromboembolism – the ALPEXC trial." Principal Investigator(s): Julien Guillaumin, Colorado State University. \$32,336

Blood clots sometimes occur in cats, especially those with heart disease, and are usually fatal. This study investigates a new protocol for continuous infusion of clot-busting drugs in children with blood clots to determine if it is effective in cats.

MT22-028: "Development of a new whole exome capture array for cat disease and cancer studies." Principal Investigator(s): Leslie A. Lyons, PhD, University of Missouri. \$35,000

As genome sequencing (the identification of DNA gene sequences) has matured, new technologies have been developed to improve the accuracy and decrease the cost. This proposal takes it a step further by concentrating on the most important part of the genes, the exons, which code for proteins, and standardizing its use for the entire veterinary community.

MT22-033: "Re-evaluation of the current, and development of an updated, histopathologic set of criteria for the diagnosis and differentiation of gastrointestinal small-cell lymphoma from other forms of chronic enteropathies in cats." Principal Investigator(s): Panagiotis G. Xenoulis, Jörg M. Steiner; Texas A&M AgriLife Research. \$34,856

Chronic intestinal diseases are common in cats and often caused by inflammation or cancer. But differentiating between the two is difficult, even with biopsies, and the treatments are very different. This study will develop a new method of analyzing intestinal biopsies to improve the accuracy of diagnosis and lead to more successful treatment.

EC23-047 Feline FAANG: what makes a cat – a cat! PI: Leslie A. Lyons, University of Missouri, \$33,738

Domestic cats have one of the most complete genome sequences of any species, however many diseases with known genetic origins do not have their specific genes or mutations identified. This study is a continuation of previous research aimed at finding the genetic basis for many common feline conditions. *(Miller Trust Fund)*