

## EveryCat Health Foundation 2021 Grant Awards

Total funding \$353,771

**W21-002: “Whole exome sequencing to identify candidate gene and Immunotherapy treatment options in feline oral squamous cell carcinoma.”** Principal Investigator(s): Shirley Chu, Wesley Warren, University of Missouri. **(New Investigator Award-Genomics) (Sponsored by Wisdom Health)**

This study investigates the genetic basis of squamous cell carcinoma, an oral cancer with few effective therapies in cats, to develop new diagnostic and treatment options for this aggressive disease.

**W21-006: “Determining the *in vitro* intrinsic clearance (feline microsomes) and *in vivo* pharmacokinetic profile of remdesivir in cats with naturally occurring feline infectious peritonitis (FIP). Principal Investigator(s): Dr.Sally Coggins, BVSc (hons I) MANZCVS (Feline Medicine); Associate Professor Merran Govendir; Dr. Benjamin Kimble; Sydney School of Veterinary Science, The University of Sydney, Australia. **(New Investigator Award) (Bria Fund)****

Remdesivir was recently approved for treatment of the coronavirus infection, COVID-19, in people in Australia, but has not been widely used due to few cases in that country. Preliminary studies show this drug is also effective against the coronaviral infection, feline infectious peritonitis. This study will examine how the drug is metabolized to determine the effective dose of Remdesivir in cats.

**W21-007: “Feline peritoneal- and ascites-associated macrophages in health and in cats with feline infectious peritonitis: leveraging an anticoronaviral clinical trial.”** Principal Investigator(s): Sarah Cook, DVM, MS, DACVP; University of California, Davis. **(New Investigator Award) (Bria Fund)**

This study investigates immune cells involved in the coronaviral infection, feline infectious peritonitis, to develop new treatment or prevention strategies for this fatal disease.

**W21-010: “Development of a rapid CRISPR CasRx diagnostic tool for feline infectious peritonitis”.** Principal Investigator(s): Krystle Reagan, University of California, Davis. **(New Investigator Award) (Bria Fund) (Sponsored by IDEXX)**

This study uses genetic analysis of the coronavirus that causes Feline Infectious Peritonitis to develop a rapid, accurate, and non-invasive diagnostic test that can be performed in a veterinary hospital setting.

**W21-015: “Effects of early life experiences on later problematic behaviors in rescued, fostered, shelter kittens.”** Principal Investigator(s): Karen Overall, MA, VMD, PhD. DACVB, Associate Professor Behavioural Medicine; Kathryn Proudfoot, MSc, PhD, Associate Professor and Director, Sir James Dunn Animal Welfare Centre; Chelsea K. Martin, DVM, PhD, DACVP, Associate Professor, Pathology and Microbiology; William J. Montelpare, Ph.D., Margaret and Wallace McCain Chair in Human Development and Health (Statistician): Atlantic Veterinary College, University of Prince Edward Island, Canada. **(Sponsored by PetSmart Charities)**

Previous studies suggest early weaning may result in antisocial behaviors in shelter kittens. This study will develop diagnostic tests to identify these kittens at an early age to determine if prolonged foster care will result in increased adoptions.

**W21-017: “Use of a liposome-toll-like receptor complex (LTC) immune stimulant in the treatment of effusive FIP – A clinical trial.”** Principal Investigator(s): Petra Cerna, Michael Lappin, Steven Dow, Colorado State University (*Bria Fund*)

Feline Infectious peritonitis is a fatal coronaviral infection of cats with no approved treatment. This study investigates a new immune therapy to determine its effectiveness in treating this devastating disease.

**W21-018: “Determining the clinical efficacy and safety of remdesivir for the treatment of naturally occurring feline infectious peritonitis.”** Principal Investigator(s): Professor Jacqueline Norris; Dr. Sally Coggins; Associate Professor Mary Thompson; Sydney School of Veterinary Science, The University of Sydney, Australia. (*New Investigator Award*) (*Bria Fund*)

Previous studies identified a compound that effectively treats Feline Infectious Peritonitis, but it is not commercially available. This study will investigate the efficacy of a closely related drug approved to treat COVID-19, Remdesivir, to treat cats in Australia with this fatal disease, as this country has few cases of COVID-19 in humans.

**W21-028: “Comparison of echocardiography and biomarkers in cats eating different types of cat foods.”**

Principal Investigator(s): Lisa Freeman, DVM, PhD, DACVN; Cummings School of Veterinary Medicine at Tufts University.

(*Ricky Fund*) (*Sponsored in memory of “Bu.”*)

Previous studies identified a relationship between heart disease and dietary “pulses,” such as green peas and chickpeas, in dogs. This study will evaluate diagnostic tests to see if the same relationship exists in cats. If so, these tests can be used to institute early treatment prior to clinical disease.

**W21-030: “Intestinal S100/Calgranulin expression in cats with enteropathy-paving the way for novel non-invasive biomarkers and pathway-specific treatment options.”**

Principal Investigator(s): Romy M. Heilmann, Dr.med.vet., Ph.D., DACVIM, DECVIM-CA, MANZCVS; Denny Böttcher, Dr.med.vet., FTA Pathology; Leipzig University College of Veterinary Medicine, Germany, and Corinne Gurtner, Dr.med.vet., M.Ed., DECVIP; Vetsuisse Faculty of Bern University, Switzerland . (*Kitty Kollar Fund*) (*Sponsored by IDEXX*)

Intestinal inflammatory disease is common in cats and difficult to differentiate from intestinal cancer. By measuring byproducts of inflammation in the stool of cats, this study looks to investigate the role of these inflammatory compounds and develop a simple test to differentiate inflammatory from neoplastic disease.

**W21-032: “Glucagon-like peptide 2 in cats with inflammatory bowel disease.”** Principal Investigator(s):

Maria Jugan, Kansas State University. (*Kitty Kollar Fund*)

Inflammatory Bowel Disease (IBD) is frequently diagnosed in cats but many don’t respond to treatment. This study looks at a recently discovered compound in cats that is associated with improved prognosis in humans, which may lead to new and more effective treatments in feline patients.

**W21-035: “Creation of a feline living bioarchive and feline induced pluripotent stem cells for use in investigations into feline tooth resorption & other feline diseases”** Principal Investigator(s): Dr. Gurå

Therese Bergkvist; Royal (Dick) School of Veterinary Studies & The Roslin Institute, The University of Edinburgh, Scotland.

Studying genetic diseases in cats is complicated by the difficulty in obtaining patient samples. The authors of this study propose to establish a sharable bank of stem cells that can produce several different types of tissues in large quantities for study. Their specific interest is in generating dental tissue to study feline tooth resorption, a common and painful dental disease in cats.

**W21-042: “Hormonal regulation of appetite in cats with and without chronic kidney disease.”** Principal Investigator(s): Jessica Quimby, DVM, PhD, DACVIM; Sarah Lorbach, DVM; The Ohio State University. **(Feline Kidney Fund, in honor of Vicki Thayer, DVM, DABVP(Feline))**

Anorexia is a common problem in sick cats. It is theorized that compounds that increase anorexia accumulate particularly in cats with kidney disease due to their decreased renal excretion. The investigators of this study will compare the levels of these compounds in healthy cats to those with kidney disease, to improve treatment and prognosis of this common disease.

**W21-046: “PPAR $\alpha$ s metabolic target to restore intestinal permeability in an intestinal organoid model of feline diabetic enteropathy.”** Principal Investigator(s): Amir Kol, University of California **(Andorra Fund, Cures4Cats Diabetes Fund)**

Many cats with diabetes have defects in their intestinal barrier leading to infection and inflammation. A pathway causing this condition was recently discovered, but the exact mechanism is poorly understood. Investigating how this occurs in cats with diabetes will result in new treatments for this condition.

**W21-048: “D-Dimer isolation and analysis of immunoreactivity in dogs, cats and horses.”** Principal Investigator(s): Juliet Brown, University of Melbourne **(Andorra Fund)**

Blood clotting tests are used to diagnose clotting disorders such as blockage of the aorta and lungs, but no test has been developed specifically for cats. This study characterizes blood clotting compounds and evaluates tests existing for other species to verify their accuracy in cats.

**W21-064: “Development of a questionnaire for the detection of cognitive decline in elderly cats.”**

Principal Investigator(s): Niwako Ogata, Hsin-Yi Weng, Purdue University

As cats live longer, some are developing cognitive issues affecting their quality of life. This study will develop a method to evaluate cats for cognitive dysfunction and differentiate it from cognitive decline associated with normal aging or chronic disease.