Wyckoff, NJ, August 10, 2014: The Winn Feline Foundation is pleased to announce awards to three feline medical research proposals made possible by the generous support of Zoetis. Winn Board President Glenn Olah, DVM, PhD, DABVP (Feline) stated, “In this special research review we awarded $94,968.00 in grants for studies that will help determine biomarkers in the areas of diagnosing and monitoring the progression of such disease states as painful degenerative joint disease (DJD), chronic kidney disease (CKD) and osteoarthritis (OA) in cats. Winn’s Grant Review Committee remains impressed by the scope of studies and commitment of the researchers who submit proposals each year. It is always very competitive as we select the studies that will receive funding. The committee considered 11 proposals and, based on a number of criteria including the quality of the science, impact of results and available funding, selected the top three studies by consensus. We thank Zoetis for their significant support to help improve feline health.”

Grants were awarded for the following research studies:

**Determining indicators of inflammation in painful cats with degenerative joint disease (DJD);**

*(WZ14-005)* Principal Investigator: Duncan Lascelles, BVSc PhD MRCVS DSAS(ST) DECVS DACVS; North Carolina State University; **$22,815**

There is a critical need for safe and effective analgesics treating pain associated with the most common disease of cats - degenerative joint disease (DJD). This is particularly important in such populations of cats with chronic kidney disease (CKD) where current analgesics (pain-killers) are considered to be associated with a risk of toxicity. The biggest impediment to development of analgesics in cats has been the difficulty in measuring pain. Several sources of evidence suggest that DJD-pain in cats is due to an altered state of immune function, resulting in inflammatory mediators (such as substances called cytokines and chemokines) building up in the body and producing pain. Researchers here believe cytokine/chemokine profiles in the blood can be used as a measure of DJD-associated pain, and further, that cytokine/chemokine profiles will lead them to novel targets for the development of effective, safe analgesics in cats, especially in cats with concurrent DJD and chronic kidney disease (CKD). In this study, the proposal is to measure these inflammatory mediators in groups of cats from which they have extremely detailed clinical information and have already collected the samples. The pilot data indicates they will successfully identify differences, and the results of this study may lead to a biomarker (or biomarker profile) measurement of chronic pain associated with DJD or DJD and CKD – essentially, a ‘blood test’ for chronic pain. Additionally, evaluation of the differences between groups may lead to discovery of the mechanisms of pain in these cats, or even the mechanisms of these chronic diseases.
Defining biomarkers involved in the development and progression of feline chronic kidney disease (CKD); [WZ14-009] Principal Investigators: Paola Scarpa, DVM, PhD; Saverio Paltinieri, DVM, PhD, Dipl ECVCP; Institution: Department of Veterinary Sciences and Public Health, Milan, Italy; $34,887

Chronic kidney disease (CKD) is a common disease of older cats that has a progressive course and a high mortality rate. The development and the progression of CKD depend upon the presence of complications such as proteinuria or hypertension. Therefore an early diagnosis of CKD or of hypertension and proteinuria associated with CKD may allow veterinarians to prevent progression of the disease and ultimately improve the quality of life of affected feline patients. In people, several recognized biomarkers serve as early, measurable indicators of CKD or of disease progression. Unfortunately only some of these have been deeply investigated in cats with CKD. Therefore, this study will assess how biomarkers in blood [such as homocysteine (Hcy), endothelin-1 (ET-1), aldosterone, angiotensin II], or in urine [such as urinary protein to creatinine (UPC) ratio, presence of tubular proteins, or alpha-1-macroglobulin (A1M)], may allow an early diagnosis of CKD or identify cats at risk of severe worsening of the disease. To this aim, privately owned cats routinely admitted to their clinical services will have samples tested to assess the serum or urinary levels of these biomarkers. Biomarker levels in cats with CKD of differing severity will be compared with indicator values from cats with non-azotemic CKD and with clinically healthy cats. Moreover, non-azotemic cats at risk to develop CKD will have repeated samples tested over the next 18 months. This planned process will determine the time-based appearance of azotemia and changes in the biomarker levels thus allowing the identification of an early indicator of CKD.

Identification of osteoarthritis related biomarkers in the cat (WZ14-011) Principal Investigators: Drs. Thierry Beths, Jennifer Carter, Sebastien Bauquier; University of Melbourne; $37,266

The radiographic prevalence of osteoarthritis (OA) in cats is estimated to be as high as 90% of the population. However, radiographic evidence has a very poor correlation with clinical signs (either pain or dysfunction). The reasons behind this poor correlation include practical ones such as the fact that cats hide “pain” as well as the more clinical issues such as the lack of specific and validated tools identifying and quantifying such pain or dysfunction. There is currently one validated multifactorial scale for identifying acute pain in the cat but there are no good tools for chronic pain. The gold standard for identification of OA in the cat is currently through radiography. Obtaining full radiographs of cats involves deep sedation or full general anaesthesia which is not ideal for many situations. The goal of this study is to develop a blood test biomarker for osteoarthritis in order to diagnose OA earlier, treat OA earlier, and possibly even to use the biomarker as a gauge of the effectiveness of treatment. The advantage of a blood test, especially if used as a screening tool, would eliminate the need for sedation or anaesthesia along with decreasing costs for the owner.

ABOUT WINN FELINE FOUNDATION:
Winn Feline Foundation is a non-profit organization established in 1968 that supports studies that improve cat health. Since 1968, Winn Feline Foundation has funded more than $4.8 million in health research in more than 30 partner institutions world-wide. For further information, go to www.winnfelinehealth.org.

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