Grant # 305: *Histocompatibility Alleles Conferring Susceptiblility to Canine Diabetes, Immune-Mediated Thyroiditis and Immune-Mediated Hemolytic Anemia – Year 2 mid-year report.* Primary investigator Wayne Potts, PhD, Dept. of Biology, University of Utah. Synopsis by Lauren Kovaleff, Health & Genetics Committee, PBGVCA

This project goal was to determine through genetic evaluation whether a few common alleles could be identified with each of the study's immune system related diseases. An initial objective was to collect 100 specimens for each of the 3 study diseases. Although 250 samples were collected by the end of this reporting period, the 100-sample/disease goals had not been met.

The grantor, the Canine Health Foundation (CHF) worked with the University to revise project objectives based on samples collected. Although hemolytic anemia samples may be sequenced, this disease will likely be dropped as a "study disease" as only 34 all breed samples were available (none of PBGV's). Ten samples for at least 3 different breeds for each of the 2 remaining diseases will be the goal for further study.

Diabetes: The top 3 breeds represented in this category are Australian Terrier (15 samples), Labrador Retriever (7) and **PBGV (5)**. The primary investigator, Dr. Wayne Potts, is very interested in working with the PBGVCA Health & Genetics Committee in trying to obtain 5 additional samples so that work in this area may be completed.

Immune Mediated Thyroiditis: There were 3 breeds with over 10 samples available and 4 others with almost 10. As only 2 of 137 affected samples were from PBGV's, we unfortunately will not be a focus group for this problem. As our past health surveys have identified hypothyroidism as a top problem in our breed, one may wonder why so few PBGV samples were submitted in this category. For a dog to be eligible for the immune-mediated thyroiditis part of the study, the owner must have provided documentation of positive results for both the Low Total/Free T4 by ED and Thyroglobulin autoantibodies blood tests. It is my understanding it is not at all unusual for veterinarians treating dogs for hypothyroidism, to form their treatment plans based on the results of tests showing hypothyroidism without undertaking the depth of testing needed to determine whether or not the definitive cause of the hypothyroidism was immune-mediated thyroid disease.