

Saluki health projects supported by Saluki Health Research, Inc. in 2010

MaryDee Sist, DVM

Autoimmune DNA studies:

At the 2009 SCOA National Specialty Show, we drew blood samples for DNA analysis from 50 AKC registered and desert-bred Salukis. These were sent to Ireland to be included in Dr. Rob Shiel's Greyhound autoimmune thyroiditis study. Unfortunately for his study, but good for the health of our breed, no Salukis sampled had thyroglobulin autoantibodies or were hypothyroid.

The DNA was then forwarded to the UK researcher, Dr. Lorna Kennedy, for inclusion in her genetic studies. Genes in the major histocompatibility (MCH) area influence immune responses. She has examined the intrabreed and interbreed variation of the dog leukocyte antigen (DLA) allele and haplotype frequencies in dogs. Analyses of the data revealed considerable interbreed variation, not only in allele frequency, but also in the number of alleles found per breed. The high interbreed and relatively low intrabreed variation of major MCH alleles and haplotypes found could provide an explanation of immune responses to vaccines, viruses and other infections as well as immune mediated conditions such as hemolytic anemia and thrombocytopenia. Comparing the findings from North American purebred dogs to European DLA allele surveys showed common alleles consistent with known founder effects therefore decreasing diversity. More alleles were detected in European breeds, compared to their North American descendants, indicating that additional DLA class diversity was lost when European breeds were established in North America.

Dr. Kennedy was surprised to find great genetic diversity (polymorphism) in the Saluki samples which is good for their health and even identified new alleles and haplotype combinations. These results will be included with the Finnish researcher, Dr. Hannes Lohi's DNA study of European and desert-bred Salukis.

Cancer DNA studies:

The Van Andel Research Institute received a large grant from the National Institutes of Health enabling them to establish the Canine Hereditary Cancer Consortium (CHCC) and conduct a broad cancer research program including hemangiosarcoma, osteosarcoma, lymphoma, malignant histiocytosis and oral melanoma in dogs. To further this endeavor, Saluki Health Research provided archived DNA from healthy older Salukis, as well as those affected with hemangiosarcoma and other cancers. All were confirmed with pathology reports, health histories and pedigrees.

At the 2010 SCOA National Specialty Show we collected over 135 blood samples and some saliva samples for use in CHCC's research. Thanks, again, to Kathy Morton for her technical expertise. Once the DNA has been analyzed, there is the potential to investigate other health concerns such as heart disease, behavioral traits and even coat and fur patterns in Salukis.

Fresh tumor samples are still needed for this study and Dr. Modiano's research.

SHR continues to bank preserved cancer samples for future studies. While I continue to hear of many Salukis affected with cancer, only 15 samples were received this year. If your dog is having a mass removed, PLEASE have it sent to me. The biopsy sample will be examined by a pathologist specializing in cancer diagnosis and the report will be sent to you and your veterinarian at no cost to you. Submission Information is available at www.salukihealthresearch.com/SHR_submissions.html

The quality of research is influenced by the quality of information supplied, so please let me know of any health issues in the Salukis I have sampled.

SHR, Inc. 2010 supported AKC/Canine Health Foundation Grants:

- Grant No. 1268: Investigation to Identify Genes Associated with Canine Immune-Mediated Hemolytic Anemia, Lorna Kennedy, University of Manchester, UK
- Grant No. 1131: Genetic Background and the Angiogenic Phenotype in Cancer, Jaime Modiano, University of Minnesota
- Grant No. 1139: Immune Targeting of Canine Hemangiosarcoma Using a Canine Derived Single Chain Antibody Approach, Nicola Mason, University of Pennsylvania
- Grant No. 1147: Identifying Mutations in Genes Associated with Canine Hemangiosarcoma, Chieko Azuma, Tufts University

Grant progress reports, updates and final reports of concluded projects have been published in previous SCOA and ASA Newsletters.

