



GPCA Health Committee



SUMMARY OF FINAL REPORT AKC CHF Grant No: 373 A & B Mapping Genes Associated with Osteosarcoma in Large Dog Breeds

As you are award the GPCA HC supported this study for two years with both financial support and the submission of samples. A final progress report was received in January, 2008. The initial purpose of the study was to map genes associated with increased osteosarcoma risk in the two primary breeds.

The project has found candidate loci for osteosarcoma in both Rottweilers and Greyhounds which were the two targeted breeds. Three candidate loci were identified for Rottweilers and four were identified for Greyhounds. Finding different loci in the two breeds studied was not unexpected as the etiology of the two breeds differs. The map is being fine tuned with additional genome scans of Greyhounds, Rottweillers and eight additional breeds. At the time the study period ended, the researchers had not completed the research with the additional eight breeds. The plan was to investigate all 7 identified loci in the additional breeds.

During the course of the study samples had been collected on 17 breeds including the two primary breeds. It was not made clear in the final report which of the 17 breeds would be selected for additional study.

During the initial two years the researchers met the following milestones in their study: 1. Selection of genome scan SNP set, which included quality control and release of the array and the development of a v2 array; 2 collection of genomic DNA samples from both normal and OSA cases; 3. Perform genome scan from the first sets of case and control dogs; 4. Analyze the genome scan data; 5 continue sample collection and genome scan; and 6. perform fine mapping using original and additional breeds (this final objective has not been completed).

The initial target number of samples for Great Pyrenees was to collect 20 OSA cases and 20 old healthy control cases. At the time the study ended (June 26, 2007) they had collected 19 OSA cases and 18 old healthy controls. For Pyrs old healthy controls are defined as animals of 8 years of age or older with no OSA.

This project is now continuing in a new grant proposal and the emphasis will be on identifying the actual genes and mutations causing the increased risk of OSA in Rottweilers and Greyhounds. In addition they will determine the frequency of these mutations in other breeds by looking specifically for all 7 loci in 10 breeds as part of the new study. I have secured an email commitment from the researcher to include Great Pyrenees as one of the additional breeds.
