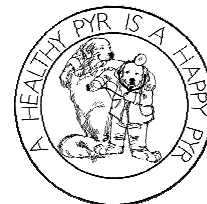




GPCA Health Committee Grants / Projects / Programs



Sumbitted by: Dianne Migas

Get involved – participate! For DETAILED information please visit www.gpcahealth.org
All Updates are posted on the site and will be printed in the GPCA Bulletin.
All information is confidential!

GPCA Funded Grant

These Grants are either “funded or co-funded” by the GPCA Health Committee made possible through our members generous donations.

Grant #373a – Osteosarcoma

Institution:

[Broad Institute](#) (Non-profit Organization)

Investigator/Researcher:

Kerstin Lindblad-Toh, PhD

GPCA Contact:

Dianne Migas / Email: bluepyrs@comcast.net

Eight thousand to 10,000 cases of a malignant bone tumor called Osteosarcoma are reported in dogs in the United States annually, representing a significant health concern. In the majority of cases, spread of the tumor through the body and death follows within a few years. Osteosarcomas affect all dogs, but the disease frequency is considerably higher in large and giant breeds.

It is clear the genetics plays an important role. We propose to identify the genetic risk factors for Osteosarcoma in two breeds: Greyhound and Rottweiler. While certain characteristics of these two breeds make them ideal to study, we expect that the genes identified in these breeds may also be associated with Osteosarcoma in related breeds. This study should lead to the development of genetic tests for Osteosarcoma that could be used to eliminate carriers from breeding populations, eventually reducing the frequency of this devastating cancer. Ultimately, it could also lead to improvements in treatment of Osteosarcoma.

How to participate

Affected and Non-Affected Relative Dogs are needed for the study.
Please either visit the GPCA Website or contact Dianne Migas for what you will need to do to participate.

GPCA Funded/Partially Funded Projects

These Projects are either “funded or co-funded” by the GPCA Health Committee made possible through our members generous donations.

The Dwarf Marker Project

Institution:

UC Davis School of Veterinary Medicine

Investigator / Researcher:

Dr. Mark Neff, PhD

GPCA Lead Contact:

Peggy Watson / Email: Pyrstaf@aol.com

Purpose

To identify the causative gene for dwarfism in Great Pyrenees, and to develop a DNA test that breeders can use to eliminate the defect from their bloodlines, and ultimately from the gene pool.

Goals

- 1) To map the region of the dog genome that harbors the causative gene
- 1) To identify the causal mutation in the gene
- 2) To develop a DNA test for genotypic selection

Methods / Procedure

An unbiased, whole genome association will be performed using a conventional case-control experimental design. The minimal sample sizes will be 12 affecteds and 25 unaffecteds, though 25 affecteds would be highly preferable. Using a high-density scanning set (1000 DNA markers), there is a 99% chance of successfully mapping the dwarfism IF it is tied to a single gene defect.

DETAILED INFORMATION IS AVAILABLE ON THE GPCA HEALTH WEBSITE**How to participate**

Please Email Peggy for all the information on how to participate in this very important Study.

GPCA Participation Projects

The Dog Genome Project Diseases – Cancers

Our current studies are on ***osteosarcoma*** and ***hemangiosarcoma***, but we are starting studies on ***melanoma***, ***lymphoma***, ***mammary cancer*** and ***mast cell tumors***.

Institution:

[Broad Institute](#) (Non-profit Organization)

Investigator/Researcher:

Kerstin Lindblad-Toh, PhD

GPCA Contact:

Dianne Migas / Email: bluepyrs@comcast.net

The world of dog owners, veterinarians, oncologists and dog geneticists is about to change! The Canine Genome Sequencing Project (based at the Broad Institute of Harvard and MIT in Boston) finished sequencing the dog genome this summer. Now, we are using this important new resource to find genes for canine diseases such as cancer, diabetes and epilepsy.

With the support of the AKC Canine Health Foundation, we are first investigating the genetic causes of osteosarcoma (bone cancer) and hemangiosarcoma. We are searching for regions of the genome that differ between healthy dogs and sick dogs to allow carrier testing. Ultimately, we will identify the defective genes causing these diseases, improving treatments in dogs and in people with cancer.

We are Searching for Genes for Canine Cancers and Other Diseases.

Why? Carrier Testing and Improved Treatment in Dogs and Humans

FMI – visit the GPCA Health Website or contact Dianne Migas.

GPCA Participation Projects

CHIC – DNA Repository Program

What is the purpose of the CHIC DNA Repository?

The CHIC DNA Repository, co-sponsored by the Orthopedic Foundation for Animals (OFA) and the AKC Canine Health Foundation (AKC CHF), collects and stores canine DNA samples along with corresponding pedigree and health history information to facilitate future research and testing aimed at reducing the incidence of inherited disease in dogs. The program objectives are:

Facilitate more rapid research progress by expediting the sample collection process
Provide researchers with optimized family groups needed for research.

Allow breeders to take advantage of future DNA based disease tests as they become available.

Foster a team environment between breeders/owners and the research community improving the likelihood of genetic discovery

Which type of sample is preferred?

Blood is the gold standard for genetic material; the yield of DNA is sufficient for all research methods, including technologies on the horizon. Moreover, the stability and purity of the DNA is of the highest caliber, which offers many benefits. However, cheek swab derived DNA remains a viable option for DNA banking. The yield and purity of this DNA is inferior to that obtained from blood, but the material is suitable for most genetic approaches. The greatest benefit of cheek swabs is reduced collection and processing costs as well as noninvasive collection. To offset the lower yield, owners are asked to submit multiple cheek swabs from each dog.

FMI – visit the GPCA Health Website or contact Dianne Migas.

Please visit the GPCA Health Website to view **ALL the current endeavors** that the Health Committee is actively working on. **www.gpcahealth.org**

We also have two Projects that we encourage Great Pyrenees Owners Participation in.

1. Addison's Disease – Contact: Brigitte Doxtator / Email: Addisons@gpcahealth.org

2. Glanzmann's Thrombasthenia – Contact: Susan Tucker / Email: GT@gpcahealth.org