February 2012

Dear Airedale Terrier community,

This is the initial newsletter announcing the collaboration between the Broad Institute and the Airedale Health Foundation to create a DNA bank with a focus on improving health in the Airedale breed though genetic analyses. Our group here at the Broad Institute in Cambridge, MA led the effort to sequence the dog genome that was published in 2005. Since that time our lab continues to be a world leader in canine genetics.

Our group currently has extensive genetic information (genotypes) on thousands of dogs. Over the past five years, studies in our group have revealed the genetic cause for white coat color, ridge and neural tube defect, lupus, degenerative myelopathy, and cardiomyopathy in a variety of breeds. In the past year we have made progress in the genetics of various forms of canine cancer, compulsive disorders, renal dysplasia, and Shar Pei fever often working together with other veterinary or canine geneticist experts in the US and Europe. A full list of our current projects and information about the dog genome group (including how to submit DNA samples) can be found on our website:


We are looking to apply our expertise to study Airedale Terriers with an aim to improve the health of the breed through genetics. We are already receiving blood sample donations from Airedale Terriers from which we can extract DNA. Typically, when studying a recessive disease dependent on a single gene we need approximately 20 dogs with the disease (affected) and 20 dogs without the disease (unaffected) to identify the genetic cause. When multiple genes are involved, such as for cancers, 100-200 dogs with the disease and 100-200 dogs without the disease are necessary. Thus, it often takes time to collect enough samples to perform a genetic study.

According to the recent Airedale Health Foundation survey, the breed may be affected by multiple types of cancer (mammary / breast, mast cell, lymphoma, other), allergy and skin disorders, Addison’s disease, kidney disease, hypothyroidism, and a variety of additional diseases. Allergies appear particularly common in Airedale Terriers and genetic studies may be able to uncover the mechanism behind the breed predisposition (please email us if your Airedale suffers from allergies, as a second blood sample may be helpful).

We look forward to our continued collaboration to provide a DNA data bank with the goal to improve the health of the Airedale Terrier breed. Please continue to send in blood samples for DNA. We need both healthy and disease affected dogs for our studies. Please make sure to fill out and return our health surveys and requests for clinical and laboratory information. This information is essential for effective genetic studies. Please keep an eye out for the next update in early fall 2012!

Sincerely,

The Broad Institute, Dog Genome Project, Airedale Terrier DNA bank
Email: dog-info@broadinstitute.org