

The CHIC DNA Repository for Gordon Setters

Jerold S Bell, DVM

The CHIC DNA repository is a joint project of the AKC Canine Health Foundation (CHF), the Orthopedic Foundation for Animals (OFA), and the Canine Health Information Center (CHIC). It is open to all breeds of dogs. The stated objectives of the program are to: 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; and to Foster a team environment between breeders/owners and the research community improving the likelihood of genetic discovery.

A DNA repository is an endowment for the breed's future. It is a centralized, multigenerational DNA storage bank. It will allow future, qualified researchers to be able to investigate genetic diseases in the breed. Presently, many funded genetic studies in other breeds have not been completed because of the lack of necessary DNA. By storing DNA from full families and large breeding populations, funded research would not have to wait, as stored DNA samples would be readily available to approved researchers. In order for researchers to have access to the DNA at the CHIC DNA Repository, they must go through an application and scientific review process with the AKC-CHF and OFA.

If we had the ability to store DNA in during the past twenty-five years from Gordon Setter cerebellar abiotrophy (CCA) families, Dr. Olby at NC State would be studying the disease directly in the Gordon Setter now. Instead, we are relying on progress from the gene search in other breeds to allow comparison with the limited Gordon Setter DNA samples presently collected.

A centralized DNA repository allows for a single DNA collection from each dog to benefit all qualified researchers in genetic diseases affecting Gordon Setters. Currently, individual researchers rely on DNA collection for their own research and storage at their respective institutions. Those samples are not available to other researchers or research projects. Also, those samples may not be saved once the research is completed.

The CHIC DNA registry combines a DNA sample with the dog's pedigree and medical history. Owners fill out an application and a health questionnaire detailing pertinent health information on the dog. In this way, dogs with specific diagnoses can be identified for future health research. If a dog's health status changes, owners should inform CHIC to update their

information. CHIC will also contact owners approximately every two years for health updates.

The stored DNA is coded so the identity of dogs is not provided to researchers. If further family history or follow-up is needed, contact with owners will be initiated by CHIC.

Due to the initiative taken by the TarTan Gordon Setter Club, Inc an agreement has been reached with CHIC where the fee for blood sample submission for any Gordon Setter is currently reduced from \$20 to \$10. Cheek swab submissions are \$5.

A blood sample is preferable to cheek swab collection, as it contains the largest quantity of DNA. This allows for multiple research projects to use the sample without running out of DNA. Blood samples are sent to the Animal Molecular Genetics Laboratory at the University of Missouri for DNA extraction and storage. If a cheek swab is collected, it is sent to the Veterinary Genetics Lab at the University of California at Davis for storage.

The CHIC DNA repository is a storage bank strictly for research purposes. CHIC DNA samples cannot be used for any other purpose.

AKC DNA profile samples are used solely for identification, litter verification, and frequent sire programs. AKC DNA samples cannot be used for any other purpose.

Samples for the CHIC DNA repository must come from the owner of the dog. If in the past, you donated a DNA sample for other research, you will need to send an additional sample for storage in the CHIC DNA repository.

When a genetic test is developed in the breed, owners can request, at their own expense, that a DNA sample stored in the CHIC DNA repository be forwarded to the established laboratory for testing. If the research to develop a genetic test was done on DNA repository samples, it will be that research laboratory's decision whether they determine dog ownership from CHIC and notify owners of test results.

More information on the CHIC DNA repository can be found on the CHIC website:
www.caninehealthinfo.org/dnabank

Requests for reprinting should be made to the author:
jerold.bell@tufts.edu