

DNA Testing

DNA testing based on identification of a specific gene mutation is 100% accurate for identification of animals that are **clear** of the disease (homozygous normal), **carriers** of the disease (phenotypically normal but heterozygous for normal and mutant alleles), or **affected** with the disease (homozygous for mutant alleles). Knowledge of the genotypic status is the breeder's most powerful tool for elimination of a genetic disease. Breeding of genetically **clear** individuals will produce offspring that are all genetically and phenotypically normal. Breedings of a **clear** with a **carrier** will produce all phenotypically normal offspring but 50% of the offspring are expected to be genotypic **carriers**. In the rare incidence where desirable traits of an affected individual outweigh the undesirable genetic trait, an **affected** individual may be bred to a **clear** and the offspring will be all phenotypi-

cally normal but genotypic **carriers**. These offspring should later be bred only with **clear** individuals.

DNA testing by linkage is not as straight forward as that for identification of a specific gene mutation and requires more explanation than this space allows, but it is more desirable than existing tests based on phenotypic evaluations of polygenic traits.

The financial advantages of DNA testing and associated DNA profiling are clear. The test is accurate, can be done at an early age, only one test is required, and progeny can be cleared by parentage if DNA profiles are available for determination of parentage.

OFA serves as the central repository of DNA test results from approved laboratories for purposes of monitoring the disease and as a source of information for breeders, breed clubs, owners, prospective owners, and researchers.

Laboratories Performing DNA-based Disease Tests

Alfort School of Veterinary Medicine CEDEX - FRANCE www.labradorcnm.com/pages/site/0-frame_site.html	Animal Health Trust Suffolk, CB8 7UU, U.K. E-mail: dnatesting@aht.org.uk	Animal Molecular Genetics Lab Univ of MO College of Vet Medicine Columbia, MO 65211 www.CanineGeneticDiseases.net
Mary Boudreaux, DVM, PhD Auburn University, AL 36849 www.vetmed.auburn.edu/index.pl/clinical_pathology	Cornell University Goldstein Molecular and Genetics Laboratory Dr. Richard E. Goldstein www.vet.cornell.edu/faculty/Goldstein/	Genetic Technologies Ltd. Fitzroy, Victoria 3065, Australia www.gtg.com.au
HealthGene Toronto, ON M6M 3Z4 Canada Toll Free: 1-877-371-1551 www.healthgene.com Email: info@healthgene.com	Michigan State University Laboratory of Comparative Medical Genetics East Lansing, MI 48824 Dr. John C. Fyfe, Dr. Patrick Venta 517-355-6463 x1552	Neurogenetics Laboratory Attn: Dr. Bai Jin Zeng NYU Medical Center New York, NY 10016 Phone: 212-263-2943
Orthopedic Foundation for Animals www.offa.org/dnatesting/	PennGen Laboratories Philadelphia, PA 19104-6010 http://w3.vet.upenn.edu/research/centers/penngen/	University of CA – Davis Veterinary Genetics Laboratory Davis, CA 95616-8744 (530) 752-2211 www.vgl.ucdavis.edu
Veterinary Diagnostics Center Fairfield, OH 45014 www.vetdnacenter.com	Veterinary Diagnostic Laboratory College of Veterinary Medicine, University of Minnesota St. Paul, MN 55108 www.vdl.umn.edu/vdl/ourservices/canineneuromuscular/home.htm	Veterinary Diagnostics Center Fairfield, OH 45014 www.vetdnacenter.com
Veterinary Diagnostic Laboratory College of Vet Medicine, Univ. of MN St. Paul, MN 55108 www.vdl.umn.edu/vdl/ourservices/canineneuromuscular/home.htm	VetGen Ann Arbor, MI 48108 www.vetgen.com	Washington State University– Veterinary Clinical Pharmacology Lab (WSU-VCPL) Pullman, WA 99165-22805 www.vetmed.wsu.edu/depts-VCPL/test.asp
Dr. Alan Wilton School of Biotechnology and Biomolecular Sciences University of New South Wales New South Wales 2052, Australia a.wilton@unsw.edu.au		

For a current list of accepted tests: www.offa.org/dnatest.html

For complete laboratory contact information: www.offa.org/dnalabs.html