

Canine DNA Testing at the University of Missouri

Tests available – PLEASE NOTE, at this time testing is available ONLY for diseases and breeds listed below. All other diseases and breeds not named are in the research phase – please see appropriate disease info on our website, www.CanineGeneticDiseases.net for information on research participation.

NCL-Neuronal Ceroid Lipofuscinosis – test available for American Bulldogs, Dachshunds, & English Setters

NEWS – Neonatal Encephalopathy with Seizures – test available for Standard Poodles

PDH (or PDP1) – Pyruvate Dehydrogenase Phosphatase Deficiency – test available for Clumber Spaniels & Sussex Spaniels

PFK – Phosphofructokinase Deficiency – test available for English Springer Spaniels

SAMPLE HANDLING

Blood Sample - The ideal sample for DNA extraction is 5 to 10cc's of whole blood, in purple-topped (EDTA) tubes. For very small dogs or puppies, 2 or 3cc's should be sufficient. The blood sample needs only to be put in the tubes and rocked gently a few times to distribute the anticoagulant - do not spin, extract serum, or anything further. Refrigerate if the sample is held for any time before shipping.

Frozen Semen – This can be used if the dog is not available for a blood sample (for living dogs, a blood sample is preferable). Please send 2 straws, minimum. They do not need to be shipped frozen, but do pack them in a crush-proof container.

Tissue Sample – DNA can be extracted from any cell-rich tissue. If identity can be maintained, baby puppies from breeds that remove dewclaws or dock tails can be tested using these tissues. Tissue removed as a result of surgery (such as spaying or neutering) can also be used. If a dog is to be tested post-mortem, a 1" cube (or equivalent) of tongue, other muscle, spleen, kidney, or liver will provide a large amount of DNA (one tissue is sufficient – do not send multiple tissues). Tissue samples should be placed in a clearly labeled freezer bag or other sterile container and frozen. DO NOT place in formalin! Place the bagged tissue inside another bag, freeze, and ship with a frozen cool pack (dry ice is not necessary).

Label sample with the following;

dog's call name - owner's last name

(If samples from several dogs are sent together, number samples and forms)

An **Individual Dog Information form** should be completed, and a **pedigree copy** should be included with the sample. Please do not send samples without info form!

TESTING FEE is \$40 per dog, by cash, check or money order payable to "University of Missouri". Foreign countries must send US funds. Test results will not be released until payment is received – please send payment with the sample and test request.

Shipping - Ideally the sample should be shipped immediately. If samples are held for a day or over a weekend, blood must be refrigerated, and tissue samples must be kept frozen. Ship via overnight delivery (US Mail, UPS, FedEx, DHL all come here daily). **Do not send on a Friday** - there will not be anyone to accept the delivery on a weekend, and the sample could be unusable by Monday. Pack in a small insulated container (most vets have these for shipping samples to labs), with one or more cool packs - it is important that samples be kept cool. Fill empty space in container with crushed newspaper, or other packing material, so that contents can not shift around, and cool packs don't crush the sample.

The delivery address is;

Dr. Gary Johnson - DNA Testing

320 Connaway Hall

University of Missouri

Columbia, MO 65211

If you need clarification, or have any questions about any of these procedures, please contact Liz Hansen by phone (573-884-3712) or email (HansenL@missouri.edu). **Thank you!**