

## **Canine DNA Testing at the University of Missouri**

**Tests available** – PLEASE NOTE, at this time testing is available ONLY for a limited number of diseases and breeds. See the “DNA Testing” section of our website, [www.CanineGeneticDiseases.net](http://www.CanineGeneticDiseases.net), for tests currently offered and testing fees. All other diseases and breeds not listed on the Test Request Forms are in the research phase – please see appropriate disease sections of the website for information on research participation. There is no charge for research participation, and no way to predict the amount of time that will be needed to develop new tests.

### **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. Rock the tube gently several times to distribute the anticoagulant – DO NOT spin, extract serum, or anything further. DO NOT send clotted blood or serum! 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). PLEASE NOTE: Because of extra steps and time involved in extracting DNA from tissue, there will be an additional \$20 charge (per dog) for processing tissue samples.

**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)

A **Test Request Form**, available online in the “DNA Testing” section of our website [www.CanineGeneticDiseases.net](http://www.CanineGeneticDiseases.net), should be completed, and a **pedigree copy** should be included with the sample. Please do not send samples without this form!

**TESTING FEE** by cash, check or money order payable to “University of Missouri” should be included with paperwork and sample. Foreign countries must send US funds. See Test Request Form for amount to send. Test results will not be released until payment is received – please include with sample!

**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.

**SEND sample, form, pedigree, and fee TO THIS ADDRESS;**

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 email ([HansenL@missouri.edu](mailto:HansenL@missouri.edu)) or phone (573-884-3712). **Thank you!**