

**SAMPLE HANDLING**  
**For Canine DNA Research at the University of Missouri**

**Blood Sample** - The ideal sample for DNA extraction is 5-10cc's of whole blood, in purple-topped (EDTA) tubes. For very small dogs or puppies, 3ccs 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 being held for any time before shipping.

**Frozen Semen** - If there is frozen semen stored from sires or affected dogs, DNA can be extracted from it. Please send 2 straws. They do not need to be shipped frozen, but do pack them in a crush-proof container.

**Tissue Sample** - Tissue removed as a result of surgery, or an organ sample upon death of the dog will provide a large amount of DNA for research. Please discuss this with your vet ahead of time if you intend to do this. (If the dog is to be euthanized, have a blood sample pulled first, if possible, and send both samples.) First choice is spleen, second choice kidney, and third choice is liver (a piece about the size of your thumb is all that is needed - not the entire organ). One tissue sample is sufficient. Have the organ removed as soon as possible following death, place into a labeled freezer bag, put that into a second bag, freeze, and ship.

**Label sample** with the following;  
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** must be included with the sample to tie it in with the correct family. If the dog is not affected but is a relative of an affected, please indicate the relationship.

**Shipping** - Ideally the sample should be shipped immediately (with a tissue sample make certain it is completely frozen first). 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, or FedEx). **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 blood samples be kept cool but not frozen, and tissue samples be kept as frozen as possible.

**The delivery address is;**  
Dr. Gary Johnson - (Breed of Dog) DNA Research  
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), email (HansenL@missouri.edu), or regular mail (321 Connaway Hall, University of Missouri, Columbia, MO 65211). Liz is Dr. Johnson's Project & Information Coordinator, and can help with any questions you may have.

**Thank you** for your cooperation and participation!