

SAMPLE HANDLING

For Canine DNA Research at the University of Missouri

Blood Sample - The ideal sample for DNA extraction is 5 to 10cc's of whole blood, in **purple-topped (EDTA)** tubes (one or several, depending on tube size). For very small dogs, 3ccs should be sufficient. More volume will yield more DNA, so in this situation, a larger sample is appreciated. 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 do anything further. Refrigerate if the sample is being held for any time before shipping, but do not hold the sample longer than 1 week before shipping or it may become unusable.

Frozen Semen - Frozen semen stored from deceased sires or affected dogs can be a source of DNA for testing. Please send 2 straws or 10+ pellets. They do not need to be shipped frozen, but do pack them in a crush-proof & leak-proof container. Special handling fee is \$40 for this sample, in addition to the regular testing fee.

Tissue Sample - DNA can be extracted from any cell-rich tissue. 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 (do not use dry ice, or ice cubes placed in a ziplock bag). If this is the only sample (no blood sample available), add special handling fee of \$40 to regular testing fee.

Label sample with the following:

call name - owner's last name

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

The ***Individual Dog Information Form & Survey*** that follow this instruction sheet should be completed, and a ***pedigree copy***, if available, should be included with the sample. If no pedigree information is available, please indicate this on the survey page. ***PLEASE take the time*** to complete the survey form – this information is very important for the ongoing research.

Include TESTING FEE of \$65 - check or money order payable to "University of Missouri", or supply credit card info (VISA, Mastercard, Discover, and AmEx accepted)

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 for next day delivery (FedEx, US Mail-Express service, or UPS). ***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 a frozen cool pack - 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 - DM Testing
320 Connaway Hall - UMC
1500 Bouchelle Ave.
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), or phone (573-884-3712).

Thank you for your cooperation and participation!

UMC CANINE DM DNA TESTING & RESEARCH

Blood – Tissue – FTA-swab – semen - other _____ Breed: _____
Registered Name _____ Call name _____
Reg# _____ Birth Date _____ Male / Female - - Intact / Neutered
Microchip or Tattoo: _____ Color _____

Test Being Requested: DM – Degenerative Myelopathy

Owner: name _____ Veterinarian _____
address _____ address _____
city-st-zip _____ city-st-zip _____
phone (day) _____ phone _____
phone (eve) _____ _____
cell _____ _____
EMAIL _____ **EMAIL** _____

******Results are reported via email – please provide complete, legible email address!******

Report test results to (please circle): Owner Veterinarian Both

PAYMENT INFORMATION: Check or money order payable to “University of Missouri” enclosed

OR Charge to VISA-MasterCard-Discover Card# _____

Cardholder name: _____ Exp Date: _____

FEE: \$65; frozen semen or tissue, add \$40 Receipt email _____

Does this dog exhibit any of the following conditions? (*Please attach history for any Yes answer*)

Y - N Allergies	Y - N Digestive difficulties
Y - N Arthritis	Y - N Heart Problems
Y - N Autoimmune Disorders	Y - N Hernia (where? _____)
Y - N Bite or Tooth Abnormalities	Y - N Reproductive Problems
Y - N Cancer / Tumors	Y - N Seizures
Y - N Cataracts / Vision Problems	Y - N Skin / Coat Problems
Y - N Deafness / Hearing Impaired	Y - N Skeletal Abnormalities (Hip Dysplasia, etc.)
Y - N Hindlimb weakness/paralysis	Y - N Temperament Problems (shy, aggressive, etc.)

other (please list): _____

Comments / Questions / Concerns? _____

I submit this sample and pedigree for the purpose of DNA testing; I understand that DNA left over following the test may be stored for potential future research; I understand that the results of this test will be reported only to the owner listed on this form and to the veterinarian (if requested) listed here, via email or FAX; and I have supplied complete and accurate information, to the best of my knowledge.

Signed: _____ date _____

IMPORTANT!! PLEASE COMPLETE THE QUESTIONNAIRE ON THE NEXT PAGE !

Please circle your answer to the questions below, and fill in blanks as appropriate.

Has this dog been diagnosed with Degenerative Myelopathy? Y N

Was Degenerative Myelopathy in this dog diagnosed by a veterinarian? Y N

What was the date (month and year) that this dog began showing signs of DM? _____

Is this dog still alive? Y N If NO, when did this dog die _____

What was the cause of death? _____

How long has this dog been showing signs of DM? (Please Circle)

1-3 mos; 4-8 mos; 9-12 mos; 13-18 mos; 19 mos-24 mos; 25 mos-36 mos; >36 mos

Which of the following tests were done to make the diagnosis of DM?

No diagnostic tests, clinical symptoms only	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		
Spinal radiographs (X-rays)	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N result was:	<input checked="" type="checkbox"/> normal <input type="checkbox"/> abnormal
Myelogram (contrast X-rays)	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N result was:	<input checked="" type="checkbox"/> normal <input type="checkbox"/> abnormal
CT (CAT) scan	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N result was:	<input checked="" type="checkbox"/> normal <input type="checkbox"/> abnormal
MRI	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N result was:	<input checked="" type="checkbox"/> normal <input type="checkbox"/> abnormal

For any abnormal result, please list findings: _____

Describe the **FIRST** symptoms of DM in this dog:

One rear leg weaker than other	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Dragging toes	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Falling in rear legs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Tremors in rear legs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Pain in back	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N

Describe the **CURRENT** symptoms of DM in this dog (if deceased, symptoms at time of death):

Weakness in one rear leg	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Loss of muscle mass in rear legs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Weakness in both rear legs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Loss of muscle mass over entire body	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Unable to support weight in rear legs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Urinary incontinence	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Unable to move rear legs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Fecal incontinence	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Weakness in front legs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Difficulty swallowing	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Unable to support weight in all limbs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Pain in back	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Unable to move all limbs	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N				

Do you know of relatives of this dog who are diagnosed with Degenerative Myelopathy? Y N

If yes, please circle: sire dam sibling grandparent other _____

Pedigree (family tree) information is very helpful for this research, and is held in complete confidence by the researchers. Please enclose a pedigree copy or registration copy with this survey.

Pedigree enclosed Pedigree will be mailed or emailed separately Pedigree unknown/not available

Any other information you feel would be useful for the researchers, please list below. Thank you for submitting this sample and completing this information.