

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 \$50 for dogs with clinical signs of DM, **\$65** for dogs with no clinical signs of DM; check or money order payable to "University of Missouri". Credit cards can be accepted also.

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 (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 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 - DM Testing
320 Connaway Hall
University of Missouri
Columbia, MO 65211

(NOTE: if UPS does not recognize 320 Connaway as a valid address, use 201 Connaway)

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).

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 _____ Fax _____

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: Clinical signs of DM present, fee=\$50; No DM signs, fee=\$65; frozen semen or tissue, add \$40

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 type="checkbox"/> Y <input type="checkbox"/> N		
Spinal radiographs (X-rays)	<input type="checkbox"/> Y <input type="checkbox"/> N	result was:	<input type="checkbox"/> normal <input type="checkbox"/> abnormal
Myelogram (contrast X-rays)	<input type="checkbox"/> Y <input type="checkbox"/> N	result was:	<input type="checkbox"/> normal <input type="checkbox"/> abnormal
CT (CAT) scan	<input type="checkbox"/> Y <input type="checkbox"/> N	result was:	<input type="checkbox"/> normal <input type="checkbox"/> abnormal
MRI	<input type="checkbox"/> Y <input type="checkbox"/> N	result was:	<input 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 type="checkbox"/> Y <input type="checkbox"/> N
Dragging toes	<input type="checkbox"/> Y <input type="checkbox"/> N
Falling in rear legs	<input type="checkbox"/> Y <input type="checkbox"/> N
Tremors in rear legs	<input type="checkbox"/> Y <input type="checkbox"/> N
Pain in back	<input 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 type="checkbox"/> Y <input type="checkbox"/> N	Loss of muscle mass in rear legs	<input type="checkbox"/> Y <input type="checkbox"/> N
Weakness in both rear legs	<input type="checkbox"/> Y <input type="checkbox"/> N	Loss of muscle mass over entire body	<input type="checkbox"/> Y <input type="checkbox"/> N
Unable to support weight in rear legs	<input type="checkbox"/> Y <input type="checkbox"/> N	Urinary incontinence	<input type="checkbox"/> Y <input type="checkbox"/> N
Unable to move rear legs	<input type="checkbox"/> Y <input type="checkbox"/> N	Fecal incontinence	<input type="checkbox"/> Y <input type="checkbox"/> N
Weakness in front legs	<input type="checkbox"/> Y <input type="checkbox"/> N	Difficulty swallowing	<input type="checkbox"/> Y <input type="checkbox"/> N
Unable to support weight in all limbs	<input type="checkbox"/> Y <input type="checkbox"/> N	Pain in back	<input type="checkbox"/> Y <input type="checkbox"/> N
Unable to move all limbs	<input 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.