

SAMPLE HANDLING

For Canine DNA testing at the University of Missouri

Blood Sample - The ideal sample for DNA extraction is 3 to 7cc's of whole blood, in **purple-topped (EDTA)** tubes (one or several, depending on tube size). For very small dogs, 1 to 2 ccs should be sufficient. Please do not send less than 1 cc. 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 about 1 breeding unit. The straws or pellets 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 major 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 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.

Include TESTING FEE of \$65 for all dogs. Fee payable via check or money order payable to "University of Missouri", or major credit cards (Visa, MC, AmEx, Discover).

Shipping – Ideally, blood samples should be shipped immediately, tissues should be frozen first. If samples are held for a couple days 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 (Styrofoam box, small cooler or insulated lunch bag), 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-UMC
1500 Bouchelle Ave
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).

UMC CANINE DM DNA TESTING & RESEARCH

Blood – Tissue – FTA-swab – semen - other _____ Breed: _____
Registered Name _____ Call name _____
Reg#/PID _____ 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-MC-AmEx-Discover Card# _____
Cardholder name: _____ Exp Date: _____

FEE: = \$65; frozen semen or tissue, + \$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; 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 Suspected

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

When did this dog begin showing signs of DM (month & year)? _____

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?

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

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

No diagnostic tests, clinical symptoms only ...	<input checked="" type="radio"/> Y <input type="radio"/> N		
Spinal radiographs (x-rays)	<input checked="" type="radio"/> Y <input type="radio"/> N	result was:	<input checked="" type="radio"/> normal <input type="radio"/> abnormal
Myelogram (contrast x-rays)	<input checked="" type="radio"/> Y <input type="radio"/> N	result was:	<input checked="" type="radio"/> normal <input type="radio"/> abnormal
CT (CAT) scan	<input checked="" type="radio"/> Y <input type="radio"/> N	result was:	<input checked="" type="radio"/> normal <input type="radio"/> abnormal
MRI	<input checked="" type="radio"/> Y <input type="radio"/> N	result was:	<input checked="" type="radio"/> normal <input type="radio"/> 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="radio"/> Y <input type="radio"/> N
Dragging toes	<input checked="" type="radio"/> Y <input type="radio"/> N
Falling in rear legs	<input checked="" type="radio"/> Y <input type="radio"/> N
Tremors in rear legs	<input checked="" type="radio"/> Y <input type="radio"/> N
Pain in back	<input checked="" type="radio"/> Y <input type="radio"/> N

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

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

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

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

Pedigree (family tree) information is very helpful for continuing research, and is held in strict confidence by the researchers. Please enclose a pedigree copy or registration certificate copy if available.

Pedigree attached Pedigree will be mailed or emailed separately Pedigree unknown/unavailable

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