

## **SAMPLE HANDLING**

### **For Canine DNA Research 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. 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** 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 - AON 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 AON DNA TESTING & RESEARCH

Blood – Tissue – FTA-swab – semen - other \_\_\_\_\_

Breed: English Cocker Spaniel

Registered Name \_\_\_\_\_

Call name \_\_\_\_\_

Reg# \_\_\_\_\_ Birth Date \_\_\_\_\_

Male / Female - - Intact / Neutered

Microchip or Tattoo: \_\_\_\_\_

Color \_\_\_\_\_

**Test Being Requested: AON – Adult-Onset Neuropathy (of English Cocker Spaniels)**

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, + \$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 adult-onset neuropathy?  Y  N suspected

Was adult-onset neuropathy in this dog diagnosed by a veterinarian?  Y  N

What was the date (month and year) that this dog began showing signs of AON? \_\_\_\_\_

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 AON? (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 AON?

|   |   |   |
|---|---|---|
| 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 AON 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 AON 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 have been diagnosed with AON?  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.