

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 ANECS, **\$65** for dogs with no clinical signs of ANECS; check or money order payable to "University of Missouri". Credit cards can be accepted also. **NOTE: Dogs with clinical signs will be tested at no charge thru 12/31/2014**

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 - ANECS 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).

UMC ANECS 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: ANECS – Adult-onset Neuropathy of English Cocker Spaniels

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 ANECS present, fee=\$50; Clinically normal, fee=\$65; frozen semen or tissue, + \$40

NOTE: Dogs with clinical signs are NO CHARGE thru 12/31/2014

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 ANECS? _____

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 ANECS? (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 ANECS?

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

For any abnormal result, please list findings: _____

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

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

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

Do you know of relatives of this dog who have been diagnosed with ANECS? 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.