

## **SAMPLE HANDLING**

### **For Tibetan Terrier NCL Research & Testing at the University of Missouri**

**Blood Sample** - The ideal sample for DNA extraction is 5-10cc's of whole blood, in purple-topped (EDTA) tubes. For very small dogs or puppies, 3ccs should be sufficient. 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 anything further. Refrigerate if the sample is being held for any time before shipping.

**Frozen Semen** - If there is frozen semen stored from sires or affected dogs, DNA can be extracted from it. Please send 2 straws. They do not need to be shipped frozen, but do pack them in a crush-proof container.

**Tissue Sample** - Tissue removed as a result of surgery, or an organ sample upon death of the dog will provide a large amount of DNA for research. Please discuss this with your vet ahead of time if you intend to do this. (If the dog is to be euthanized, have a blood sample pulled first, if possible, and send both samples.) First choice is spleen, second choice kidney, and third choice is liver (a piece about the size of your thumb is all that is needed - not the entire organ). One tissue sample is sufficient. Have the organ removed as soon as possible following death, place into a labeled freezer bag, put that into a second bag, freeze, and ship.

**Label sample** with the following;

call name - owner's last name

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

An **Individual Dog Information form** should be completed, and a **pedigree copy** must be included with the sample to tie it in with the correct family. If the dog is not affected but is a relative of an affected, please indicate the relationship.

**Fee** – For clinically symptomatic dogs suspected to be NCL-affected, there is no charge for the test. For all other dogs the fee is \$65, payable to “University of Missouri” by check or money order (US funds) ONLY – sorry, no credit cards can be accepted through our lab!

**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 (US Mail, UPS, or FedEx). **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 – TT NCL  
320 Connaway Hall  
University of Missouri  
Columbia, MO 65211

**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). Liz is Dr. Johnson's Project & Information Coordinator, and can help with any questions you may have.

**Thank you** for your cooperation and participation!

# **CANINE NCL- DNA RESEARCH**

Breed \_\_\_\_\_

## **Individual Dog Information**

Blood – Tissue – other \_\_\_\_\_

Registered Name \_\_\_\_\_ Call name \_\_\_\_\_

Reg# \_\_\_\_\_ Birth Date \_\_\_\_\_ Sex? M – F Neutered/Spayed? Y – N

Sample Submission Date: \_\_\_\_\_ Color \_\_\_\_\_

Sample submitted for which research project? Neuronal Ceroid Lipofuscinosis

Owner: name \_\_\_\_\_ breeder's name \_\_\_\_\_

address \_\_\_\_\_ address \_\_\_\_\_

phone (day) \_\_\_\_\_ phone \_\_\_\_\_

phone (eve) \_\_\_\_\_

fax \_\_\_\_\_

e-mail \_\_\_\_\_ e-mail \_\_\_\_\_

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.) |
| other (please list):              | Y - N Temperament Problems (shy, aggressive, etc.) |

Testing done on this dog:

OFA/PennHip Y - N age at test: \_\_\_\_\_ result: \_\_\_\_\_ # \_\_\_\_\_

CERF Y - N age last tested: \_\_\_\_\_ result: \_\_\_\_\_ # \_\_\_\_\_

Thyroid Y - N age last tested: \_\_\_\_\_ result: \_\_\_\_\_

other (please list):

***See following pages for NCL-specific questions – please complete for ALL sampled dogs.***

### **ATTACH PEDIGREE COPY TO THIS FORM**

Please circle your response to the following;

- I am / am not willing to provide additional blood samples if needed for research.
- I will / will not consider donation of a tissue sample upon the death of this dog, and will discuss this decision with my veterinarian so that a notation is placed in my file.

I submit this sample and pedigree for the purpose of DNA research; I understand that the identity of dogs and owners participating in the research will not be revealed; and I have supplied complete and accurate information, to the best of my knowledge.

Signed: \_\_\_\_\_ date \_\_\_\_\_

## Canine NCL-specific Questionnaire

Has this dog been diagnosed as likely to be affected with NCL? Yes No

Have any relatives of this dog been diagnosed with NCL? Yes No Don't Know

If yes, which relatives? Sire Dam Sibling Offspring Other \_\_\_\_\_

Paternal Grandsire Paternal Grand-dam Maternal Grandsire Maternal Grand-dam

When is the best time to reach you by phone? \_\_\_\_\_

### Veterinary Contact Information

#### *Primary Care*

Vet Name \_\_\_\_\_

Clinic Name \_\_\_\_\_

Address \_\_\_\_\_

City,St,Zip \_\_\_\_\_

Phone # \_\_\_\_\_

#### *Ophthalmologist*

Name \_\_\_\_\_

Clinic Name \_\_\_\_\_

Address \_\_\_\_\_

City,St,Zip \_\_\_\_\_

Phone # \_\_\_\_\_

#### *Neurologist*

Vet Name \_\_\_\_\_

Clinic Name \_\_\_\_\_

Address \_\_\_\_\_

City,St,Zip \_\_\_\_\_

Phone # \_\_\_\_\_

#### *Other Specialist*

Name \_\_\_\_\_

Clinic Name \_\_\_\_\_

Address \_\_\_\_\_

City,St,Zip \_\_\_\_\_

Phone # \_\_\_\_\_

May we have your permission to contact your veterinarians to request records and discuss your dog's health history, diagnostic testing, and possible treatment options? Yes No

Signed: \_\_\_\_\_ date: \_\_\_\_\_

***Behavior and Activity survey follows – please complete for all sampled dogs***

**CHANGES IN BEHAVIOR**

Compare this dog's current behavior to its earlier behavior. Please circle the correct answer.

If you need additional space to describe changes, please use back of form or attach additional pages.

	<b>Normal - or - Degree of Change</b>				<b>Describe Changes</b>
1. Housetraining	normal	mild	moderate	severe	_____
2. Interest in food (eating habits)	normal	mild	moderate	severe	_____
3. Appears nervous	normal	mild	moderate	severe	_____
4. Interaction/socialization with other dogs	normal	mild	moderate	severe	_____
5. Aggressiveness to other dogs	normal	mild	moderate	severe	_____
6. Aggressiveness to people	normal	mild	moderate	severe	_____
7. Tolerance to grooming or bathing	normal	mild	moderate	severe	_____
8. Tolerance to being alone	normal	mild	moderate	severe	_____
9. Ability to recognize/respond to commands	normal	mild	moderate	severe	_____
10. Ability to recognize or respond to name	normal	mild	moderate	severe	_____
11. Recognizes you or other familiar people	normal	mild	moderate	severe	_____
13. Responses to noise/loud sounds	normal	mild	moderate	severe	_____
14. Development of compulsive behavior	normal	mild	moderate	severe	_____
15. Circling	normal	mild	moderate	severe	_____
16. Wakes you more at night	normal	mild	moderate	severe	_____
17. Inappropriate or persistent vocalization	normal	mild	moderate	severe	_____

**CHANGES IN PHYSICAL ACTIVITY**

Compare this dog's current physical activity to its earlier activity and ability. Please circle the correct answer. If you need additional space to describe changes, please use back of form or attach additional pages.

	<b>Normal - or - Degree of Change</b>				<b>Describe Changes</b>
18. Climbing up or down stairs	normal	mild	moderate	severe	_____
19. Tremors or shaking	normal	mild	moderate	severe	_____
20. Seizures	normal	mild	moderate	severe	_____
21. Increased stiffness or weakness	normal	mild	moderate	severe	_____
22. Difficulty in movement or coordination	normal	mild	moderate	severe	_____
23. Changes in posture ("roached" back)	normal	mild	moderate	severe	_____
24. Tail carriage when alert & interested	normal	mild	moderate	severe	_____
25. Ability to see during the day	normal	mild	moderate	severe	_____
26. Ability to see at night in dim light	normal	mild	moderate	severe	_____
27. Head movements	normal	mild	moderate	severe	_____
28. Trance-like behavior	normal	mild	moderate	severe	_____
29. Bumps into objects, clumsy	normal	mild	moderate	severe	_____

Please describe any other health problems or behavioral abnormalities:

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