

## UMC Shetland Sheepdog Lance Canine Tooth Study

### 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** - If there is frozen semen stored from sires or affected dogs, DNA can be extracted from it. Please send 1 straw or 5-7 pellets. They do not need to be shipped frozen, but do pack them in a crush-proof & leak-proof container.

**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).

**Label sample** with the following: Dog's call name - Owner's last name  
(If samples from several dogs are sent together, number samples and forms)

Both pages of 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.

**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 – Sheltie Tooth Project  
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).

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

*Individual Dog Information Form & Survey*

**UMC Shetland Sheepdog Lance Canine Tooth Study**

Blood - Tissue - FTA-swab - semen - other \_\_\_\_\_ Breed: Shetland Sheepdog

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

Reg# \_\_\_\_\_ Birth Date \_\_\_\_\_ Male / Female - - Intact / Neutered

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

Owner: name \_\_\_\_\_ Veterinarian \_\_\_\_\_

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

city-st-zip \_\_\_\_\_ city-st-zip \_\_\_\_\_

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

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

(cell) \_\_\_\_\_

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

**\*\*\*\* Please provide complete, legible email address!\*\*\*\***

The above dog is affected – unaffected (please circle one) and check the appropriate boxes below.

If **affected**, please complete the section below:

**The upper canine tooth was “lance” in relation to the lower canine tooth, i.e., its tip is located in front of the lower canine tooth rather than behind it.**

**Right** upper canine tooth affected       Age of eruption, if known \_\_\_\_\_ wks

Surgical/orthodontic treatment was performed. Please describe: \_\_\_\_\_  
\_\_\_\_\_

**Left** upper canine tooth affected       Age of eruption, if known \_\_\_\_\_ wks

Surgical/orthodontic treatment was performed. Please describe: \_\_\_\_\_  
\_\_\_\_\_

Other comments/description: \_\_\_\_\_  
\_\_\_\_\_

If **unaffected** (normally positioned canine teeth):

Indicate the relationship of this dog to an affected one if known, ex. full sibling, sire, or dam: \_\_\_\_\_  
\_\_\_\_\_

**Please complete both pages of this survey! [Individual Dog Information Form & Survey, page 1 of 2]**

Information concerning other dental anomalies may be used in additional studies concerning teeth. Please check appropriate boxes below:

I'd rather not complete the section below concerning other tooth problems or don't think I can do so accurately. (Please skip to the section about photographs and complete the remainder of the survey form.)

Other than the above noted lance canine tooth abnormality, this dog has normal, complete dentition.

This dog has normal, complete dentition.

Missing 1<sup>st</sup> premolar tooth                       right upper                       left upper                       right lower                       left lower

Missing adult 2<sup>nd</sup> premolar tooth                       right upper                       left upper                       right lower                       left lower

(Note: There are 4 premolar (PM) teeth with each subsequent tooth being larger than the one in front of it. In some dogs in which the adult 2<sup>nd</sup> PM tooth is absent, the "baby" tooth is retained. In a dog over 7 mos. of age, retention of the baby 2<sup>nd</sup> PM tooth can be confirmed if the 2<sup>nd</sup> PM tooth is not larger than the 1<sup>st</sup>.)

Missing adult 3<sup>rd</sup> premolar tooth                       right upper                       left upper                       right lower                       left lower

Missing adult 4<sup>th</sup> premolar tooth                       right upper                       left upper                       right lower                       left lower

Undershot bite – the lower incisor teeth protrude in front of the upper ones.

Overshot bite – the upper incisor teeth are in front of the lower ones, but there is a noticeable gap between them - the mandible is too short.

Base narrow lower canine teeth                       right                       left

Delayed eruption of a "baby" upper 3<sup>rd</sup> incisor tooth     right     left (If this condition is present, please complete the form for the 3<sup>rd</sup> incisor tooth study.

Other, please describe: \_\_\_\_\_

Other Comments / Questions / Concerns? \_\_\_\_\_

Close-up photographs (either hard copy or jpg format) of the above dog's incisor and canine teeth are included with this form or e-mailed to: Liz Hansen at: [HansenL@missouri.edu](mailto:HansenL@missouri.edu). (If possible, please include views of the premolar teeth of the right and left sides.)

**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 a copy of the registration certificate with this survey.**

Pedigree enclosed                      Pedigree will be mailed or emailed separately                      Pedigree unknown/not available

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 \_\_\_\_\_

**Any other information you feel would be useful for the researchers, please list below. Thank you for submitting this sample and completing this information!**