

DNA ARCHIVE



GLEN OF IMAAL TERRIER CONFERENCE

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DNA ARCHIVE

- What is the DNA archive?
- Why have a DNA archive?
- Video – Sample collection : buccal (cheek) swabs
- Contents of the DNA swab kit
- Submission to the AHT
- Cost to owners
- Health updates & notification of death
- Confidential Glen health database
- Health information
- International archive ...?
- Links & contacts

WHAT IS THE DNA ARCHIVE?

- The DNA archive is not to be confused with DNA collection for:
 - the Glen DNA test for GPRA-crd3
 - DNA parentage analysis
- The DNA archive offers a storage facility at the Animal Health Trust (AHT) for:
 - Glen buccal (cheek) swabs (or blood samples)*
 - Pedigree data
 - Health information
- At the time when DNA is required for a research project, the DNA will be extracted and provided to the research team
 - * N.B. Under UK Home Office regulations a blood sample being drawn solely for the purpose of research must be done so under a very specific license. If blood is being primarily taken for diagnostic purposes then a few mls extra for research would not infringe on the Home Office rules.
 - *Blood samples from non-EU countries require an import license reference ~ Please write clearly on the submission envelope: **PATH/111/2009/1***

WHY HAVE A DNA ARCHIVE?

- Many Glen owners will remember the Bochum (Germany) and Cornell (USA) research projects, which identified the gene responsible for the Glen variant of PRA (progressive retinal atrophy). Initially, with the Bochum project, a number of breed club representatives from the UK and mainland Europe collaborated with the identification of affected Glens, and together they analysed pedigrees to identify close relatives who could also potentially carry the gene mutation. After this came the search for completely unrelated, unaffected Glens (controls). Then began the quest to locate owners and request DNA samples for the research team.
- This highlights the importance of breed clubs, breeders and owners from different countries and continents collaborating with health research projects in this numerically small breed. It also illustrates the time-consuming processes required to identify dogs and collect DNA samples before the scientists can begin their research.

WHY HAVE A DNA ARCHIVE?



Tamar & Storm at the AHT

The advantage to the research scientists of having a DNA archive is that the identification of affected dogs and the analysis of pedigrees becomes a much simpler and quicker process, because everything required to initiate and progress a health research project is readily available in one place:

- DNA samples
- Pedigree data
- Health information

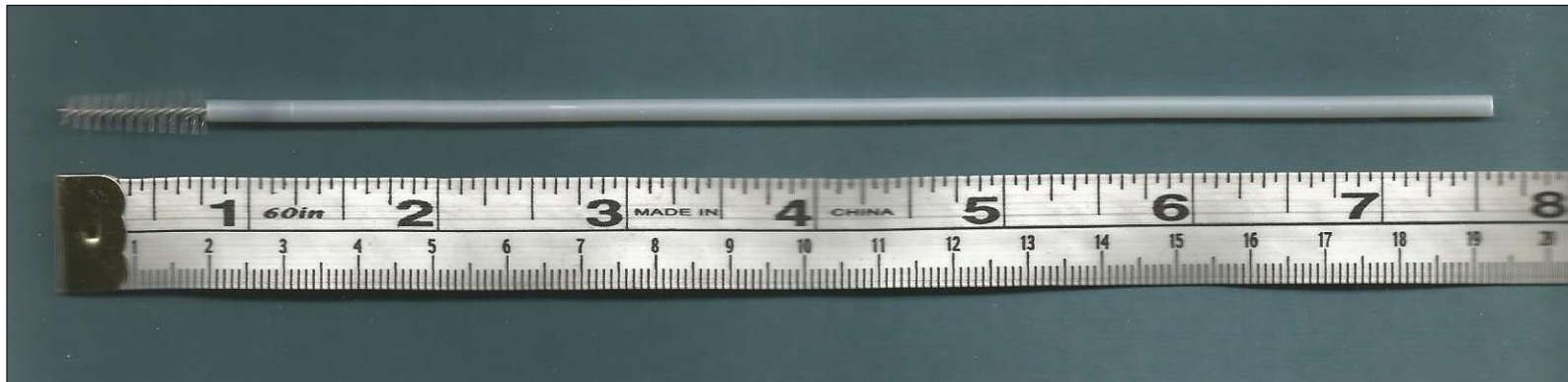
SAMPLE COLLECTION : BUCCAL (CHEEK) SWABS

- Please go to this link for video demonstrating how to take swabs from your Glen:

www.efghealth.co.uk/dna_archive.html#video

CONTENTS OF DNA SWAB KIT

- 5 x individually packaged buccal (cheek) swabs : long-handled with nylon-on-wire brush



CONTENTS OF DNA SWAB KIT

- Envelope for the swabs
 - Kennel Club registered name and number of dog
 - Breed
 - Date of birth
 - Sex

CONTENTS OF DNA SWAB KIT



For Office Use Only

PLEASE PLACE SWABS FROM A SINGLE DOG DIRECTLY IN HERE

KC Registered Name and Number of Dog.....

.....

Breed

D.O.B..... Sex

Envelope for sample swabs only

CONTENTS OF DNA SWAB KIT

- Sample submission form + swabbing instructions (on reverse)
 - Dog details
 - Breed Sex Date of birth DD MMYYYY
 - KC registered name
 - KC registered number
 - Coat colour
 - Microchip or tattoo number (if known)
 - Health information
 - Owner details
 - Name Address Email or telephone contact
 - Declaration

CONTENTS OF DNA SWAB KIT

Declaration


I hereby declare that the sample submitted for testing is from the dog described above. I accept that the DNA sample becomes the property of the Animal Health Trust and may be used in future research. I am aware that the dog's name as given may be provided to the breed health coordinator to benefit the sample collection, although all owner details and clinical information or genetic results pertaining to the dog will remain confidential.

Signature _____

Date _____

CONTENTS OF DNA SWAB KIT

Sample submission form

 **Animal Health Trust**
the science behind animal welfare

Sample Submission Form
For office use only

SAMPLE SUBMISSION FOR CANINE GENETIC RESEARCH
PLEASE WRITE CLEARLY, USING BLOCK LETTERS AND COMPLETE WHERE POSSIBLE

Dog details:

Breed..... Sex..... Date of Birth (D)..... (M)..... (Y).....
KC Registered or pet name
KC Registration number Coat colour

Microchip and/or tattoo number (if known)

Clinical status for possible inherited condition: please tick appropriate box or boxes, indicating diagnoses where relevant.

Affected – please state condition, approximate age, and include copies of veterinary diagnosis.....

Suspected – i.e. undetermined heritability/equivocal diagnosis.....

Free of known inherited disease to your knowledge.

Related – state condition and relationship to this dog i.e. sibling affected by.....

Swabs or blood sample (please preserve 2-5ml blood in an EDTA tube)

3 to 5-generation pedigree of the dog whose sample is enclosed.

All relevant information regarding inherited disease, i.e. copies of eye exams, hip scores, dates of diagnosis, key notes from the clinical history. Essential to make best use of sample.

The above information is necessary for the sample to be used for research purposes. It is also important to inform the AHT of any significant health changes that occur after the sample has been submitted.

Owner details:

Name.....
Address

Email or telephone contact

I hereby declare that the sample submitted for testing is from the dog described above. I accept that the DNA sample becomes the property of the Animal Health Trust and may be used in future research. I am aware that the dog's name as given may be provided to the breed health coordinator to benefit the sample collector, although all owner details and clinical information or genetic results pertaining to the dog will remain confidential.

Signature..... Date.....


DNA sample, Sample Submission Form, Pedigree and Health Certificates should be sent to:
Canine Genetics, Centre for Preventative Medicine, Animal Health Trust, Lanwicks Park, Kenilford, Newmarket, Suffolk, CB8 7JU, U.K.

PLEASE SEE REVERSE FOR SWABBING INSTRUCTIONS

Swabbing instructions

Swabbing Instructions

Swab Sample Collection Procedure

 **Animal Health Trust**

Please follow the instructions below carefully to collect the dog's DNA sample. Five (buccal) cheek swabs are provided in each kit and are intended for use with one individual dog only. The samples should not be taken within one hour after the dog eating to help obtain a clean sample.

1. First label the Swab Envelope clearly with the appropriate KC registered name and number. If these are not available, label with the name given on the Sample Submission form. Please also state the breed, sex, and birth date of the animal.
2. Remove a single swab from its packaging, trying to avoid any or excessive contact with the brush end, ideally but not necessarily, by wearing latex or vinyl gloves to reduce the possibilities of contamination.
3. Hold the dog's head firmly and roll the swab on the inside of the dog's cheek on each side of the mouth, ensuring the brush is moved across the entire cheek surface. N.b. Cheek cells are not visible to the naked eye, but please brush the surface thoroughly to ensure a sufficient sample is obtained.
4. Briefly air-dry the swab for a moment and place directly into the Swab Envelope previously labeled at step 1.
5. Repeat steps 2-4 with the remaining four swabs when convenient and seal the Swab Envelope. All five swabs can be used during the same sampling session, although this isn't necessary as the dog may become impatient. Use of each swab can be at different time intervals.
6. Complete the Sample Submission form. It is imperative that the information given here is accurate.
7. Return the sealed Swab Envelope along with the completed Sample Submission form, and copies of the dog's pedigree and relevant health certificates using the return addressed envelope provided, which requires a **large envelope stamp**.

Acknowledgement of sample receipt will be given where an e-mail contact has been provided.

PLEASE ENSURE WHEN RETURNING SAMPLES THAT THE POSTAGE HAS BEEN PAID IN FULL. IT IS NOT NECESSARY TO USE A SPECIAL DELIVERY SERVICE AS THE DNA IS IN A STABLE STATE ONCE DRIED AND PLACED INSIDE THE SWAB ENVELOPE.

PLEASE SEE REVERSE FOR SAMPLE SUBMISSION FORM

SUBMISSION TO AHT

- Addressed envelope provided to:

Canine Genetics Centre for Preventative Medicine,
Animal Health Trust, Lanwades Park, Kentford, Newmarket, Suffolk, CB8 7UU, UK

- Checklist:

- 5 swabs (or blood sample : 2 – 5mls in EDTA tube : *please refer to slide 3 regarding blood samples*)
- 3 – 5 generation pedigree
- All relevant health information
 - If applicable, copies of health screening certificates e.g.
 - (latest) eye examination ~ hip/elbow scores ~ DNA test result for crd3
 - If applicable, information & (if possible) copies of supporting documentation for diagnosed health conditions
 - dates of diagnoses ~ key notes from medical history ~ blood test results ~ X-ray / scan reports ~ histology reports, etc.

N.B. Please do not send the originals of health screening certificates and supporting health documentation

SUBMISSION TO AHT

Canine Genetics Research
Centre for Preventive Medicine
Animal Health Trust
Lanwades Park, Kentford
Newmarket
Suffolk
CB8 7UU
U.K.

- **Blood** samples sent from non-EU countries require an import licence reference – please write **PATH/111/2009/1** in bottom right-hand corner of envelope
- Swabs & blood samples posted from outside the UK can be sent via:
 - airmail
 - or, if preferred, surface mail

COST TO OWNERS

- The AHT requests a small donation of £5.00 (GBP) per swab kit to cover:
 - cost of swab kit
 - long-term storage
 - administrative costs

 - 5 GBP = 6.3 EUR
 - 5 GBP = 8.4 USD
- (02 August 2014)
- A facility has been set up for non-UK owners to make their donations via PayPal ... using their own PayPal account or a debit or credit card
 - **N.B.** There is a small charge for making donations via PayPal : http://www.efghealth.co.uk/dna_archive.html#donation

HEALTH UPDATES & NOTIFICATION OF DEATH

- It is important to keep the AHT and the confidential Glen Health Database updated of any changes to a Glen's health status:
 - Diagnosis of any new health condition, including date of (or age at) diagnosis
 - Date & cause of death
 - Email the Animal Health Trust : canine.genetics@aht.org.uk
 - Email the confidential Glen Health Database : efghealth@gmail.com

CONFIDENTIAL GLEN HEALTH DATABASE

- The pedigree data and health information provided by owners remains confidential to the Animal Health Trust.
- So, to help us with our breed health monitoring, we ask owners ... if they are happy to do so ... to provide health information about their Glens, using the printable form (next slide) or via our online form:

www.efghealth.co.uk/dna_archive.html#db

CONFIDENTIAL GLEN HEALTH DATABASE

GLEN OF IMAAL TERRIER DNA ARCHIVE AT THE ANIMAL HEALTH TRUST (AHT)
Request for AHT DNA swab kit
(Information below requested for our confidential health database)

GLEN DETAILS

Registered name: _____
Pet name: _____
Date of birth: e.g. 01 Jan 2000 _____
Sex: Dog entire Dog neutered Bitch entire Bitch spayed

Has your Glen ever been diagnosed with any serious, ongoing or recurrent health condition/s? No Yes
If 'Yes' - please specify the condition/s: _____
Date and/or age of diagnosis: _____

Further information: _____

OWNER DETAILS

Title/s: Mr Mrs Ms Dr Other _____
Surname/s: _____
First name/s: _____
Address: _____

Postcode: _____
Email: _____
Telephone number/s: _____

Office use only: Amount: £ _____ Cheque Cash
Donation rec'd (date): _____ Swabs supplied (date): _____

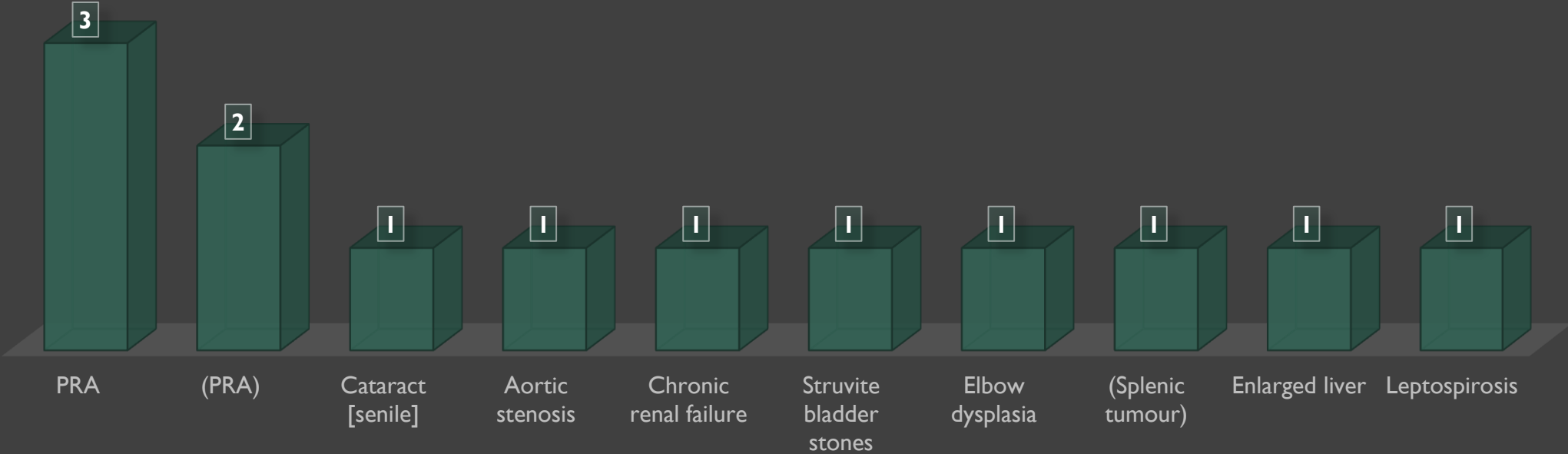
www.efghealth.co.uk/kitrequest.pdf

Information requested:

- Dog details
 - KC registered name & pet name
 - Date of birth DD MM YYYY
 - Sex : neutered or entire
- Health information
- Owner details
 - Name Address Email / telephone contact

HEALTH INFORMATION

9 HEALTH CONDITIONS REPORTED FROM 8 OF THE 32 GLENS ON THE DNA ARCHIVE DATABASE



LINKS & CONTACTS

Animal Health Trust

www.aht.org.uk/cms-display/what_we_do.html



Canine Genetics Centre for Preventative Medicine

Animal Health Trust

Lanwades Park Kentford Newmarket Suffolk CB8 7UU UK

EFG Health DNA Archive page

www.efghealth.co.uk/dna_archive.html



Alison Seall, DNA Archive Coordinator

Email : efghealth@gmail.com

INTERNATIONAL ARCHIVE ...?

- The Glen is a numerically small breed ...
- The Glen PRA research projects (Bochum & Cornell) demonstrated the importance of cooperation and collaboration between countries to facilitate the collection of enough DNA samples for the scientists
- The AHT accepts samples from dogs resident outside the UK
- The AHT is happy to provide aliquots of DNA to research teams
 - These samples are anonymised
 - It is indicated whether DNA samples are from affected or controls for a particular condition
- An international DNA archive brings DNA samples, pedigree data and health information together in one place and provides “one-stop” access for future health research projects ...
 - ❖ The first four DNA samples for the Glen of Imaal Terrier DNA Archive were received by the AHT on 1st November 2013



PLEASE SUPPORT DNA ARCHIVING ...

... for the future benefit of our lovely breed THANK YOU!