INFORMATION SHEET FOR OWNERS

UK DNA ARCHIVE FOR COMPANION ANIMALS

Great advances in veterinary medicine have been made recently and many of theses have centred around new developments in body imaging, new treatments and surgical procedures, and the identification of genes, which cause disease. Major developments in molecular biology have taken place in the last few years, making it possible to quickly analyse the DNA of both human and animals.

This is helping scientists work out what the underlying causes are for diseases and why some individuals become ill, whereas others remain well. Many of the diseases seen in companion animals, including dogs, cats and horses, are caused by a combination of genes from their parents (this is often referred to as "nature") and the external or environmental factors they have experienced during their lives (this is called "nurture"). Most scientists now accept that for the majority of features about ourselves and our animals, they are the result of a mixture of nature and nurture. For example, body weight and height are in part caused by which genes are inherited and in part caused by our nutritional intake. In the same way, diseases such as diabetes in dogs, sarcoid in horses and renal failure in cats are likely to be caused by a combination of both nature and nurture. The analogy often given to explain why such diseases develop is that of requiring both the seed (nature) and the soil (nurture) before a plant can grow.
If researchers can identify which genes and environmental factors (such as vaccination, infections, nutrition, drugs) are important and interact together to cause diseases, we may be able to use this information to improve animal welfare. For example it may be possible to advise owners which foods or vaccinations their pets should avoid (or alternatively have) to reduce the risks of certain diseases developing.

Researchers from the UK Veterinary Schools and referral practices are now beginning to investigate the genetic and environmental factors underlying a wide range of diseases in companion animals. To do this it is important to collect large numbers of DNA samples from animals where the clinical features of diseases are clearly defined. Rather than have many small or duplicated collections across the UK, the Vet Schools have agreed to work together in assembling one National UK DNA Archive.

The information collected will be kept strictly confidential. The samples and clinical data will be made available through application to a review committee to *bona fide* research groups working on these conditions and where the projects have been deemed to be ethically sound. It is possible that samples will also be made available to research groups working in collaboration with non-academic and industrial partners.
The DNA sample being submitted to the Archive will usually be derived from blood leftover from the routine pathology tests being performed. Samples will only be included if the owners give their written consent. The sample will be anonymous once it is entered into the Archive.
The owner will also retain the right to remove the sample from the Archive in the future if so wished.
No information regarding tests performed on the DNA sample will be given back to the owner. This is because it will only be possible to find out which genes and environmental factors are important by identifying patterns in large numbers of affected and unaffected animals.
Should you require further clarification of any issues raised please contact
Wendy Hallows Archive Coordinator Tel:0151 794 4755 e-mail: whallows@liv.ac.uk

Canine Epilepsy - DNA bank

The search for the gene

Instructions for DNA collection Form 1

Thank you very much for agreeing to participate in this project aiming to collect DNA from dogs with primary (idiopathic) epilepsy. By allowing surplus blood from diagnostics tests to go into the DNA Archive for Companion animals we will be able to store this unique information for future investigations into the genetics of epilepsy.

Dogs for DNA collection

We are collecting DNA from epileptic dogs that have had 3 or more generalised / focal or myoclonic seizures more than 24 hours apart and have either had

- a normal brain MRI scan

or

- a normal clinical and neurological examination 12 months or longer after the start of the seizures.

We do not wish DNA if the seizures are due to structural brain damage e.g. previous trauma, a mass or infection.

Protocol for DNA collection

Remaining blood (in EDTA tube) from diagnostic tests (as much as possible but should not be more than 50% of original sample) is submitted to the DNA Archive.

Owner should read and understand the UK DNA Archive for Companion Animals Information Pamphlet (enclosed) and sign the DNA archive consent form (Form 2)

Complete the Phenotype Form (Form 3) for each dog sampled. It is vital that we have the dog's correct pedigree name and sire and dam or kennel club number if available. If available attach a copy of the pedigree to the form.

Send Forms 2 and 3 with blood sample to

CIGMR
Medical School Stopford Building
The University of Manchester
Oxford Road
Manchester
M13 1BJ
(A prepaid envelope may be provided)

A duplicate of phenotype Form 3 and the pedigree details should be posted/faxed to Clare Rusbridge, Stone Lion Veterinary Centre, 41 High Street, Wimbledon, SW19 5AU, neuro.vet@btinternet.com Confidential fax line 020 87860525.

Thank you!

Epilepsy bank project coordinator Clare Rusbridge, Stone Lion Veterinary Centre, 41 High Street, Wimbledon, SW19 5AU
Tel: 020 8946 4228 neuro.vet@btinternet.com Confidential fax 020 87860525

Informed consent

1. I have read and understood the accompanying information leaflet explaining the UK DNA Archive for Companion Animals.

2. I appreciate that in order to advance our understanding of veterinary diseases there is a need to determine how a particular condition relates to the genetic profile of the animal.

3. I understand that any genetic tests relating to my animal will not provide specific information about its condition but will contribute to the general body of knowledge about the disease in the species. I realise that no specific information regarding genetic tests on my animal will be reported back to me.

4. I agree to DNA being extracted from a sample taken from my animal and that this will be used entirely for research purposes. I give consent for the material to be stored and made available to *bona fide* scientists in the field of animal disease and genetics.

5. I understand that all information I give will be held in strict confidence and the source of the archived DNA will not be divulged

6. I understand that this research will not benefit my animal directly, but in the future may be of benefit to other animals.

7. I understand that the custodianship of the DNA resides with the University of Liverpool but I retain the right to remove my animal's sample from the archive in the future if so wished.

Signed…… Date…….

Phenotype form – attach copy of pedigree Form 3

Owner's name _____ Dog's name _____

Dog's Pedigree Name: _____

Breed _____

Date of birth: _____ Colour: _____ Sex: _____

Sire's pedigree name _____ Dam's pedigree name _____

Affected relatives? _____

Vet name/practice (practice stamp)

Date of Sampling - _____ Veterinary Surgeon's Signature _____

Seizure type (please tick appropriate box)

☐ **Generalised** (grand mal) – seizure involves whole body, with tonic (stiff extended limbs) and clonic (limbs paddling) muscle contractions with or without urination / defaecation / salivation / vomiting.

☐ **Focal** (partial) – seizure involving part of body; animal may or may not lose consciousness/awareness
Brief description _____

☐ **Myoclonic** – seizures associated with relative jerking of head / limbs. Myoclonic/jerking may be seen separate from the seizures e.g. during movement / flashing lights / sudden movement to head.
Brief description _____

☐ **Other** - Brief description _____

Seizure frequency (clusters counted as one episode) < 7 days ☐ 7-14 days☐ 14 -28 days☐
1-2 months ☐ 3 months☐ 3-6 months ☐ >6 months☐ other (please specify)

Number of seizures in a cluster 1-2 ☐ 3-5 ☐ 5-10 ☐ 10-20 ☐ >20 ☐ other (please specify)

Medication _____

Epilepsy bank project coordinator Clare Rusbridge, Stone Lion Veterinary Centre, 41 High Street, Wimbledon, SW19 5AU
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