

# **INFORMATION SHEET FOR OWNERS**

## **UK DNA ARCHIVE FOR COMPANION ANIMALS**

Great advances in veterinary medicine have been made recently and many of these 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

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