Canine Epilepsy Studies at the Animal Health Trust

Scientists and clinicians at the Animal Health Trust (www.aht.org.uk) are embarking on an exciting project to investigate the genetic basis of epilepsy in the Border Collie. By combining the expertise of the clinicians to diagnose dogs with idiopathic epilepsy and state of the art genetic research capability we hope to identify the genetic factors that influence a Border Collie's risk of developing epilepsy.

If the research is successful the end product will be a DNA test that can identify any Border Collie's risk of developing epilepsy and passing it on to future generations.

The project is likely to take several years to complete but the first, and arguably most important, step is DNA sample collection. Once sufficient samples have been collected we will analyse genetic markers distributed evenly across the dogs genome to identify those that are shared by all affected dogs and different from those carried by dogs that don't suffer from epilepsy. These markers will point us to the region(s) of the DNA that contains mutation(s) that are responsible for causing epilepsy. Once we have determined the region of DNA that contains the mutations we can undertake additional experiments to identify the mutations themselves.

If we are to be successful we need DNA samples from dogs affected with idiopathic epilepsy and their close relatives, and also from unaffected dogs. The DNA can be provided as a blood sample (if blood is being drawn from your dog for another purpose) or as a simple cheek swab. We would also appreciate a pedigree of all dogs that donate a sample so we can understand how the samples we collect are related to one another. This will help us to understand the mode of inheritance of the condition and how many genes are involved.

All research is undertaken in complete confidence. The identity of all samples submitted to the research effort will be kept confidential and the results from individual dogs will only be shared with the dog's owner(s), once the research has been completed.

If you have a Border Collie that is either:

a) Affected with idiopathic epilepsy

b) Closely related to a dog that is affected with idiopathic epilepsy

c) Unaffected with epilepsy and over 7 years of age

please consider donating a DNA sample to this research project.

Many Thanks

Luisa De Risio, DMV, MRCVS, PhD, DECVN,
European and RCVS recognised specialist in veterinary neurology
Neurology/Neurosurgery Unit
Centre for Small Animal Studies

and
Cathryn Mellersh, PhD
Department of Genetics
Centre of Preventive Medicine