



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Cancer Genetics Branch  
National Human Genome Research Institute National  
Institutes of Health

50 South Drive, Bldg. 50, Room 5347  
Bethesda, Maryland 20892-8000  
Phone: (301) 451-9390  
Fax: (301) 594-0023

## Bladder Cancer in the West Highland White Terrier

The Ostrander Laboratory at the National Human Genome Research Institute at NIH, in collaboration with the Knapp Laboratory at Purdue Comparative Oncology Program at Purdue University, and the Mc Neil Laboratory at the Department of Small Animal Sciences at Michigan State University, are conducting research on the genetic susceptibility to transitional cell carcinoma (TCC) of the urinary bladder in the West Highland White Terrier. This is a devastating disease with genetic underpinnings and our ultimate goal is to identify the genetic variants responsible for susceptibility to this disease. West Highland White Terriers are five times more likely to be diagnosed with TCC than other dogs and treatment of advanced TCC has often been met with disappointing results. Too many Westies die each year as a result of this terrible disease.



Dr. Elaine Ostrander and her collaborators are searching for the genetic causes of TCC. They will be looking at all the dog's chromosomes to find regions of the genome that affected dogs share that occur with a decreased frequency in a population based sample of the breed. Statistical tools are used to evaluate the data between the two groups of dogs and to compare the data from Westies to that being collected from other breeds. We will not only be collecting and testing DNA from West Highland White Terriers, but also Scottish Terriers and Shetland Sheepdogs. Of key interest will be the determination as to





whether related breeds, such as the Westie and Scottie, have inherited the disease from a common ancient ancestor.

The Ostrander Lab is soliciting blood

samples from two groups of dogs. We seek samples from all dogs with a diagnosis of TCC. In addition, we seek DNA from dogs at least nine years of age who currently have no known cancers.

If your dog meets one of these criteria, please contact **Donna Viglietti, Ostrander Lab Samples Manager, for a sampling kit by phone (301-451-9390) or email ([dog\\_genome@mail.nih.gov](mailto:dog_genome@mail.nih.gov))**. Each kit contains a one page consent form, a pair of vials for collecting 5-10 cc of blood at your veterinarian's office, and instructions for handling the blood. The collection kit comes in a small cardboard mailer tube that protects the blood vials. A return address label is included so that the forms and blood can be sent back to the lab conveniently. Blood can be mailed at room temperature without cold packs.

All genetic and contact information collected for each dog will remain confidential. Specifically, your participation in the study, your dog's pedigree, health information you provide, and any data we get from your dog's DNA sample

will not be disclosed to any breeders, Club personnel, the AKC, or the AKC Canine Health Foundation.

The sample you provide will be instrumental in helping to identify the genomic mutations associated with TCC. Every sample is precious and provides researchers with new and unique genetic information. Finding the variant locus (the part of the DNA that is abnormal) is the first step in what we expect will ultimately lead to a genetic test for TCC. Breeders could use the test to make informed decisions resulting in a reduction of the disease in the population. In addition, determining the genetic cause of the disease is a necessary first step in developing strategies to prevent the cancer and develop therapies for affected dogs.

Thank you in advance for your time and effort. Our work would not be possible without the participation of responsive owners and club members like you. Please contact Donna Viglietti by phone or email with any questions or concerns you may have.



**Phone: 301-451-9390**

**Email: [dog\\_genome@mail.nih.gov](mailto:dog_genome@mail.nih.gov)**

