



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Allison P. Reed	Project Number J0411
Project Title Did a Mutation in the p53 Tumor Suppressor Gene Cause a Cancer in My Dog?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Since my dog developed, was professionally treated, recurred and died in the professional care of a vet clinic of a rare form of bladder cancer at the young age of 2 years old, perhaps if I can find a genetic reason for Sassy's unfortunate cancer, her puppies can be genetically tested and monitored for early detection and treatment in the future.</p> <p>Methods/Materials A) Obtain Sassy's released tissue once approved by LACOE Safety Review Committee B) Review Sassy's Life History. C) Call the Breeders and puppy owners of Sassy to obtain family information. d) Isolate Genomic DNA from tumor. e) The Sassy p53 gene was amplified using polymerase chain reaction (PCR). f) The Sassy p53 PCR amplified gene was sequenced by sending it to MCLAB. They sent it via email to me. g) The sequence data was analyzed using a software program called Sequencher.</p> <p>Results None of Sassy's parents siblings or offspring have cancer. Sassy's DNA had mutations in the p53 gene which would change the p53 protein. Her p53 exon 6 had 6 mutations. Her p53 exon 7 had seven mutations.</p> <p>Conclusions/Discussion Sassy tumor had a mutated p53 gene within its DNA. Some of these mutations are the same as scientist publish for other dog tumors. The mutation I found in exon 6 are new unreported mutations. Since none of Sassy family has cancer, her tumor may be the result of environmental factors. Her family may already have silent p53 mutations.</p>	
Summary Statement To find out if my dogs tumor has p53 mutations which may relate to cancer.	
Help Received Rosa Nagaishi Helped with science practice. John Levy helped with lab work. Mom helped with my Poster.	