

Laboratory Report

Laboratory #:	99165	Call Name:	Sally
Order #:	43496	Registered Name:	-
Ordered By:	Karen Bradfield	Breed:	Australian Cobberdog
Ordered:	July 12, 2018	Sex:	Female
Received:	Sept. 10, 2018	DOB:	Jan. 2018
Reported:	Sept. 17, 2018	Registration #:	-

Results:

Disease	Gene	Genotype	Interpretation
Copper Toxicosis (Labrador Retriever Type) <i>ATP7A</i>	<i>ATP7A</i>	M/M	Two Copy Carrier Female
Copper Toxicosis (Labrador Retriever Type) <i>ATP7B</i>	<i>ATP7B</i>	WT/WT	Normal (clear)
Degenerative Myelopathy	<i>SOD1</i>	WT/WT	Normal (clear)
Episodic Falling Syndrome	<i>BCAN</i>	WT/WT	Normal (clear)
Exercise-Induced Collapse	<i>DNM1</i>	WT/WT	Normal (clear)
Familial Nephropathy (Cocker Spaniel Type)	<i>COL4A4</i>	WT/WT	Normal (clear)
Glycogen Storage Disease VII, PFK Deficiency	<i>PFKM</i>	WT/WT	Normal (clear)
Muscular Dystrophy (Golden Retriever Type)	<i>DMD</i>	WT/WT	Normal (clear)
Neonatal Encephalopathy with Seizures	<i>ATF2</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4	<i>RPGRIP1</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	<i>PRCD</i>	WT/WT	Normal (clear)

WT, wild type (normal); M, mutant; Y, Y chromosome (male)

Interpretation:

Molecular genetic analysis was performed for 11 specific mutations reported to be associated with disease in dogs (ten deleterious mutations and one protective mutation). We identified two normal copies of the DNA sequences in the 10 deleterious mutations tested. Thus, this dog is not at an increased risk for the diseases associated with these 10 mutations. In addition, we identified two mutant copies of the DNA sequences for *ATP7A*. Thus, this dog carries two copies of the protective mutation for Copper Toxicosis (Labrador Retriever Type) *ATP7A*.

Recommendations:

This dog is not at an increased risk for the diseases caused by or associated with the mutations tested. Because this dog is "clear" of the 10 disease-associated, deleterious mutations, this dog will only pass these normal genes on to its offspring. Normal results do not exclude inherited mutations not tested in these genes or other genes that may cause medical problems or may be passed on to offspring.

This dog was also tested for a genetic mutation of the canine *ATP7A* gene which partially protects against copper toxicosis in dogs that have inherited the *ATP7B* mutation described above. This dog carries two copies of the *ATP7A* gene mutation. Therefore, this dog may have a lesser risk of copper toxicosis than the risk associated with the inheritance of the *ATP7B* gene mutation alone. In addition, dogs that inherit two copies of

the *ATP7A* mutation will have an even lesser risk of copper toxicosis than those inheriting just a single copy. The *ATP7A* gene mutation is more effective at decreasing the risk of copper toxicosis in male dogs than females. However, since multiple factors (both genetic and environmental) play a role in causing copper toxicosis, the *ATP7A* mutation is not completely protective in either sex. Note: The *ATP7A* mutation is located on the X chromosome. Since males only have a single X chromosome, they can only inherit a single copy of this mutation.

Paw Print Genetics® has genetic counseling available to you at no additional charge to answer any questions about these test results, their implications and potential outcomes in breeding this dog.



Christina J Ramirez, PhD, DVM, DACVP
Medical Director



Casey R Carl, DVM
Associate Medical Director

Normal results do not exclude inherited mutations not tested in these or other genes that may cause medical problems or may be passed on to offspring. These tests were developed and their performance determined by Paw Print Genetics®. This laboratory has established and verified the tests' accuracy and precision. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think these results are in error, please contact the laboratory immediately for further evaluation. In the event of a valid dispute of results claim, Paw Print Genetics will do its best to resolve such a claim to the customer's satisfaction. If no resolution is possible after investigation by Paw Print Genetics with the cooperation of the customer, the extent of the customer's sole remedy is a refund of the fee paid. In no event shall Paw Print Genetics be liable for indirect, consequential or incidental damages of any kind. Any claim must be asserted within 60 days of the report of the test results.