

Laboratory Report

Laboratory #:	35491	Call Name:	Blayde
Order #:	175698	Registered Name:	Grizzly Bear of DreamWinds
Ordered By:	Allison Lutterman	Breed:	Australian Shepherd
(Co-)Owner:	Allison Lutterman	Sex:	Male
Ordered:	Jan. 25, 2023	DOB:	Nov. 2015
Received:	Feb. 3, 2023	Registration #:	-
Reported:	Feb. 9, 2023		

Results:

Disease	Gene	Genotype	Interpretation
Collie Eye Anomaly	<i>NHEJ1</i>	WT/WT	Normal (clear)
Degenerative Myelopathy	<i>SOD1</i>	WT/WT	Normal (clear)
Hereditary Cataracts (Australian Shepherd Type)	<i>HSF4</i>	WT/M	Carrier (At-Risk)
Hyperuricosuria	<i>SLC2A9</i>	WT/WT	Normal (clear)
Intestinal Cobalamin Malabsorption (Australian Shepherd Type)	<i>AMN</i>	WT/WT	Normal (clear)
Intestinal Cobalamin Malabsorption (Border Collie Type)	<i>CUBN</i>	WT/WT	Normal (clear)
Multidrug Resistance 1	<i>ABCB1</i>	WT/WT	Normal (clear)
Multifocal Retinopathy 1	<i>BEST1</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 nine specific mutations reported to be associated with disease in dogs. We identified two normal copies of the DNA sequences in eight of the mutations tested. Thus, this dog is not at an increased risk for the diseases associated with these eight mutations. However, we identified one normal copy and one mutant copy of the DNA sequences for *HSF4*. Thus, this dog is a carrier of (and may be at risk for) Hereditary Cataracts (Australian Shepherd Type).

Recommendations:

Hereditary Cataracts (Australian Shepherd Type) are inherited in an autosomal dominant fashion with incomplete penetrance, meaning that not all dogs that inherit the mutation will develop the disease. Though hereditary cataracts are most commonly seen in dogs having two copies of the mutated gene, dogs inheriting a single copy of the mutation also have an increased, though lesser, risk of developing cataracts. Based on this, and the fact that this dog showed a mutation in one copy of the *HSF4* gene, this dog is at risk for this disease. If bred, this dog will pass on one copy of the mutation to approximately 50% of its offspring who will, therefore, be at an increased risk for developing hereditary cataracts. Dogs related to this dog have an increased risk to be affected by or carry the mutated gene. Additional testing for this mutation is indicated for related dogs.

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.



Blake C Ballif, PhD
Laboratory & Scientific Director



Christina J Ramirez, PhD, DVM, DACVP
Medical Director

Paw Print Genetics® performed the tests listed on this dog. The genes/diseases reported here were selected by the client. 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. The results included in this report relate only to the items tested using the sample provided. These tests were developed and their performance determined by Paw Print Genetics. This laboratory has established and verified the test(s)' accuracy and precision with >99.9% sensitivity and specificity. The presence of mosaicism may not be detected by this test. Non-paternity may lead to unexpected results. This is not a breed identification test. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think any 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.