GENSOL DIAGNOSTICS
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Micah Halpern, PhD
Principal Scientist

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CERTIFICATE OF RESULTS FOR SAMPLE ID #: 496996

OWNER'S NAME: WENDY SMITH
PET'S NAME*: SELAH
PET'S REGISTRATION #: ASDM-MN-2212774
PET'S BREED: MINIATURE AUSTRALIAN SHEPHERD
DATE TESTED: 2/25/2025

TEST	RESULT**	TEST RESULT EXPLANATION***
NEUROAXONAL DYSTROPHY SHEPHERD TYPE (NAD-SHEP)	A	(CLEAR/NORMAL): These dogs have two copies of the normal gene and will neither develop Neuroaxonal Dystrophy nor pass this mutation to their offspring.

*GenSol warrants its test results to be accurate for the sample obtained from the above pet. In the event of a valid claim, owner's sole remedy is a refund of the fee paid. IN NO EVENT SHALL GENSOL BE LIABLE FOR INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND. Any claim must be asserted within one year of the report of test results.

**All samples submitted to GenSol become the property of GenSol and may be used for internal quality control and/or research purposes. Test results provide information concerning a pet's DNA sequence and are not an indication or guarantee of pet's disease state or condition. Test results alone should not be used to diagnosis, treat or prevent disease.

***For detailed result explanation visit www.gensoldx.com. Please consult a licensed veterinarian to discuss the implications.

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FAST - ACCURATE - AFFORDABLE

Paw Print Genetics
A division of Genetic Veterinary Sciences, Inc.

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Laboratory Report

Laboratory #:	315267	**Call Name:**	Selah
Order #:	148186	**Registered Name:**	-
Ordered By:	Wendy Smith	**Breed:**	Australian Shepherd
Ordered:	Sept. 29, 2022	**Sex:**	Female
Received:	Oct. 11, 2022	**DOB:**	June 2022
Reported:	Oct. 18, 2022	**Registration #:**	-

Results:

Disease	Gene	Genotype	Interpretation
Collie Eye Anomaly	*NHEJ1*	WT/WT	Normal (clear)
Degenerative Myelopathy	*SOD1*	WT/M	Carrier
Hereditary Cataracts (Australian Shepherd Type)	*HSF4*	WT/WT	Normal (clear)
Hyperuricosuria	*SLC2A9*	WT/WT	Normal (clear)
Intestinal Cobalamin Malabsorption (Australian Shepherd Type)	*AMN*	WT/WT	Normal (clear)
Intestinal Cobalamin Malabsorption (Border Collie Type)	*CUBN*	WT/WT	Normal (clear)
Multidrug Resistance 1	*ABCB1*	WT/WT	Normal (clear)
Multifocal Retinopathy 1	*BEST1*	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	*PRCD*	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 *SOD1*. Thus, this dog is a carrier of Degenerative Myelopathy.

Recommendations:

Degenerative Myelopathy is inherited in an autosomal recessive fashion. Based on this, and the fact that this dog showed a mutation in one copy of the *SOD1* gene, this dog is a carrier of this disease. Although dogs that carry only one copy of this mutation will not be clinically affected, if bred with another carrier, the pairing could produce affected offspring. To avoid producing affected offspring, this dog should be bred with dogs that are normal (WT/WT) for this gene. 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.