

Degenerative Myelopathy (SOD1A)

Client Name:	Lauriaan Morton (LAU002)	Report No:	ZO2025/9673/20250804/#101089
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Profile:	DG2025/93667	Species:	Canis lupus familiaris / Canine / Dog
Name:	Golden Starseed Blue (Mufasa)	Microchip #:	972274200143122
Breed:	Golden Retriever		
Test:	[SOD1A] Degenerative Myelopathy (SOD1A)		
Results:	c.118G>A	GG	CLEAR

Sample Type: Whole Blood (EDTA)	Extraction Method: DNA Extraction: D4069	Test Type: Genetic Health
[SOD1A] Degenerative Myelopathy (SOD1A)		
Degenerative Myelopathy (SOD1A) is a late onset degenerative neurological disease of the spinal cord that is prevalent in many canine breeds. As the spinal cord degenerates, the canine will display clinical symptoms such as ataxia in the pelvic limbs. The genetic test detects the single nucleotide mutation c.118G>A, in the SOD1 gene, that encodes the superoxide dismutase 1 protein. A mutation in the SOD1 gene causes a malfunction in the protein, which results in an accumulation of toxic aggregates. The mode of inheritance is strongly suspected to be autosomal recessive and is widely distributed in the overall canine population. Studies have shown that a small percentage of dogs with confirmed DM may be heterozygous for the SOD1: c.118A allele. Although almost all confirmed DM affected dogs will be SOD1: c.118A homozygous, not all homozygotes will ultimately develop DM as this is a late onset disease. Furthermore, there is evidence that DM is modified in different breeds, unfortunately the modifier mutation has not yet been identified. References: Awano et al 2009. GWAS analysis reveals a SOD1 mutation in canine degenerative myelopathy that resembles amyotrophic lateral sclerosis. PNAS 106(8), pp2794-2799.		

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The DNA profile is based on a preliminary marker panel that is subject to modification pending additional genetic information.

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