DEGENERATIVE MYELOPATHY

REPORT NO.: SA2019/67349/0114/01

Client Name:	NICOLE GERSTENBERG
Kennel Name:	
Client Address:	27 BARRY STREET HOUT BAY 7806
Client Tel No.:	082 218 6664
Canine Name:	GLENAHOLM SHAKILA OF TAUTONGA
Breed:	RHODESIAN RIDGEBACK
Microchip No.:	985111001210090 Registration No.:
Genetic Test:	DEGENERATIVE MYELOPATHY
Result:	CLEAR

DEGENERATIVE MYEOLOPATHY (DM)

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. This is an autosomal recessive genetically inherited disease that requires two mutant copies of the SOD1 gene to cause DM.

Awano et al 2009. GWAS analysis reveals a SOD1 mutation in canine degenerative myelopathy that resembles amyotrophic lateral sclerosis. PNAS 106(8), pp2794-2799.

SAMPLE TYPE:	EDTA BLOOD AMPULE
EXTRACTION METHOD:	DNA EXTRACTION
TEST TYPE:	SANGER SEQUENCE DETECTION

BREEDING IMPLICATIONS

			MATERNAL CANDIDATE					
			CLEAR		CARRIER		AFFECTED	
			G	G	G	A	A	A
PATERNAL CANDIDATE	CLEAR	G	GG	GG	GG	GA	GA	GA
		G	ALL CLEAR		50% CLEAR 50% CARRIER		ALL CARRIER	
	CARRIER	G	GG	GA	GG	GA	GA	AA
		A			GA	AA		
			50% CLEAR 50% CARRIER		25% CLEAR 50% CARRIER 25% AFFECTED		50% CLEAR 50% AFFECTED	
	AFFECTED	A	GA	GA	GA	AA	AA	AA
		A	ALL CARRIER		50% CARRIER 50% AFFECTED		ALL AFFECTED	

Disclaimer: This report does not disregard the existence of any unknown or rare variant of SOD1 gene that may cause DM.

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