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Africa's Genomics Company



**ANIMAL GENETICS**  
**CANINE TEST REPORT: DEGENERATIVE MYELOPATHY - DM**

Client's Name: NICOLE GERSTENBERG  
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Canine's Name: KWA-ZURI OF TAUTONGA  
 Breed: RHODESIAN RIDGEBACK  
 Registration No.: ZA005270B17      Microchip No.: 945000001816940

Genetic Test: **DEGENERATIVE MYELOPATHY - DM**  
 Result: **CLEAR**

**DEGENERATIVE MYELOPATHY (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 T, Johnson GS, Wade CM, et al. Genome-wide association analysis reveals a SOD1 mutation in canine degenerative myelopathy that resembles amyotrophic lateral sclerosis. Proceedings of the National Academy of Sciences of the United States of America. 2009; 106(8):2794-2799. doi:10.1073/pnas.0812297106.

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

**BREEDING IMPLICATIONS**

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



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