


Sensory Ataxic Neuropathy - Golden Retriever

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Profile:	DG2025/93667	Species:	Canis lupus familiaris / Canine / Dog
Name:	Golden Starseed Blue (Mufasa)	Microchip #:	972274200143122
Breed:	Golden Retriever		
Test:	[SAN_GR] Sensory Ataxic Neuropathy - Golden Retriever		
Results:	mt 5304delA	A/A	Clear

Sample Type: Whole Blood (EDTA)	Extraction Method: DNA Extraction: D4069	Test Type: Genetic Health
[SAN_GR] Sensory Ataxic Neuropathy - Golden Retriever		
<p>Sensory Ataxic Neuropathy is a maternally inherited, mitochondrial disorder, which results in difficulty maintaining normal posture and resulting in an altered gait. It is characterized by progressive lack of muscle control and coordination as well as decreased spinal reflexes without muscle atrophy.</p> <p>Sensory ataxic neuropathy is caused by the deletion of a single adenine (A) base pair at position 5,304 in the tRNA^{Tyr} mitochondrial gene.</p> <p>Both male and female dogs can develop the condition, although inheritance is thought to only occur through the maternal line. Although uncommon, mitochondrial disorders can exhibit heteroplasmy, where normal and variant mitochondrial DNA (mtDNA) can be present in a cell, of which the proportions may also vary across the body. Due to this phenomenon, carriers of the condition (only one copy of the mutation) may still develop symptoms and pass the mutation to their offspring. Affected male dogs (two copies of the mutation) are at risk of developing the disease, but are not expected to produce puppies that will develop the disease. Affected females on the other hand are at risk of developing the disease, and are predicted to produce litters where all of the puppies are at risk of developing the disease. Clear dogs will not develop symptoms and cannot pass the mutation to their offspring.</p> <p>References: Jäderlund, K.H., Orvind, E., Johnsson, E., Matiassek, K., Hahn, C.N., Malm, S., & Hedhammar, A. (2007). A neurologic syndrome in Golden Retrievers presenting as a sensory ataxic neuropathy. <i>Journal of Veterinary Internal Medicine</i>, 21(6), 1307-1315. doi: 10.1892/07-005.1 Baranowska, I., Jäderlund, K.H., Nennesmo, I., Holmqvist, E., Heidrich, N., Larsson, N.G., Andersson, G., Wagner, E.G., Hedhammar, A., Wibom, R., & Andersson, L. (2009). Sensory ataxic neuropathy in golden retriever dogs is caused by a deletion in the mitochondrial tRNA^{Tyr} gene. <i>PLOS Genetics</i>, 5(5): e1000499. doi: 10.1371/journal.pgen.1000499</p>		

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