

Laboratory Report

Laboratory #:	325393	Call Name:	Peanut
Order #:	179775	Registered Name:	Lake Country's Peanut Butter
Ordered By:	Randall Lahaie	Breed:	Labrador Retriever
Ordered:	March 15, 2023	Sex:	Female
Received:	March 29, 2023	DOB:	July 2022
Reported:	April 7, 2023	Registration #:	SS35167702
		Microchip #:	956000014210914

Results:

Disease	Gene	Genotype	Interpretation
Centronuclear Myopathy	<i>PTPLA</i>	WT/WT	Normal (clear)
Congenital Myasthenic Syndrome (Labrador Retriever Type)	<i>COLQ</i>	WT/WT	Normal (clear)
Degenerative Myelopathy	<i>SOD1</i>	WT/WT	Normal (clear)
Exercise-Induced Collapse	<i>DNM1</i>	WT/WT	Normal (clear)
Hereditary Nasal Parakeratosis (Labrador Retriever Type)	<i>SUV39H2</i>	WT/M	Carrier
Macular Corneal Dystrophy (Labrador Retriever Type)	<i>CHST6</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Golden Retriever 2	<i>TTC8</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	<i>PRCD</i>	WT/WT	Normal (clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 1	<i>COL9A3</i>	WT/M	Carrier
Skeletal Dysplasia 2	<i>COL11A2</i>	WT/WT	Normal (clear)
Stargardt Disease	<i>ABCA4</i>	WT/WT	Normal (clear)

WT, wild type (normal); M, mutant; Y, Y chromosome (male)

Interpretation:

Molecular genetic analysis was performed for 11 specific mutations reported to be associated with disease in dogs. We identified two normal copies of the DNA sequences in nine of the mutations tested. Thus, this dog is not at an increased risk for the diseases associated with these nine mutations. However, we identified one normal copy and one mutant copy of the DNA sequences for *SUV39H2*. Thus, this dog is a carrier of Hereditary Nasal Parakeratosis (Labrador Retriever Type). In addition, we identified one normal copy and one mutant copy of the DNA sequences for *COL9A3*. Thus, this dog is a carrier of Retinal Dysplasia/Oculoskeletal Dysplasia 1.

Recommendations:

Hereditary Nasal Parakeratosis (Labrador Retriever Type) is inherited in an autosomal recessive fashion. Based on this, and the fact that this dog showed a mutation in one copy of the *SUV39H2* 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.