

Laboratory Report

Laboratory #:	484859	Call Name:	Jasmine
Order #:	220608	Registered Name:	-
Ordered By:	Ivan Fisher	Breed:	Miniature Smooth Dachshund
Ordered:	Feb. 18, 2025	Sex:	Female
Received:	March 19, 2025	DOB:	Jan. 2023
Reported:	April 8, 2025	Registration #:	-

Results:

Disease	Gene	Genotype	Interpretation
Afibrinogenemia (Dachshund Type)	<i>FGA</i>	WT/WT	Normal (Clear)
Chondrodystrophy with Intervertebral Disc Disease Risk Factor (CDDY with IVDD)	<i>CFA12 FGF4</i>	M/M	Increased IVDD Risk Associated with CDDY
Limb-Girdle Muscular Dystrophy (Dachshund Type)	<i>SGCA</i>	WT/WT	Normal (Clear)
Mucopolysaccharidosis IIIA (Dachshund Type)	<i>SGSH</i>	WT/WT	Normal (Clear)
Narcolepsy (Dachshund Type)	<i>HCRTR2</i>	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 1	<i>PPT1</i>	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 2	<i>TPP1</i>	WT/WT	Normal (Clear)
Osteogenesis Imperfecta (Dachshund Type)	<i>SERPINH1</i>	WT/WT	Normal (Clear)
Progressive Retinal Atrophy (Giant Schnauzer Type)	<i>NECAP1</i>	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy (Dachshund Type)	<i>NPHP4</i>	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4	<i>RPGRIP1</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 10 mutations tested. Thus, this dog is not at an increased risk for the diseases associated with these 10 mutations.

Molecular genetic analysis was performed for a specific mutation reported to be associated with Chondrodystrophy with Intervertebral Disc Disease Risk Factor (CDDY with IVDD) in dogs. We identified two mutant copies of the DNA sequences for *CFA12 FGF4* associated with CDDY and IVDD risk. Thus, this dog is affected with CDDY and is at increased risk of developing an early-onset form of IVDD known as Hansen's Type I IVDD.

Recommendations:

Chondrodystrophy with an increased risk to develop early-onset Intervertebral Disc Disease (CDDY and IVDD Risk) is inherited in an autosomal dominant fashion. Dogs which inherit one or two copies of the associated *FGF4* mutation in chromosome 12 (*CFA12 FGF4*) display CDDY, which is defined as shortening of long bones in the limbs and premature degeneration and calcification of intervertebral discs. Based on this and the fact that this dog has inherited two copies of this mutation, this dog is affected with CDDY and is at increased risk of developing an early-onset form of IVDD known as Hansen's Type I IVDD. However, IVDD associated with this mutation displays