

Laboratory Report

Laboratory #:	174052	Call Name:	Millie
Order #:	79399	Registered Name:	Millie Millz
Ordered By:	Todd Miller	Breed:	Doberman Pinscher
(Co-)Owner:	Todd/Anita Miller	Sex:	Female
Ordered:	May 15, 2020	DOB:	March 2019
Received:	May 22, 2020	Registration #:	WZ01990906
Reported:	June 4, 2020	Microchip #:	985141001225399

Results:

Disease	Gene	Genotype	Interpretation
Dilated Cardiomyopathy	<i>PDK4</i>	WT/M	At-Risk
Narcolepsy (Doberman Pinscher Type)	<i>HCRTR2</i>	WT/WT	Normal (clear)

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

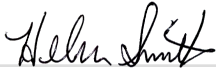
Interpretation:

Molecular genetic analysis was performed for two specific mutations reported to be associated with disease in dogs. We identified two normal copies of the DNA sequences in the *HCRTR2* gene tested. Thus, this dog is not at an increased risk for Narcolepsy (Doberman Pinscher Type). However, we identified one normal copy and one mutant copy of the DNA sequences for *PDK4*. Thus, this dog is at risk for Dilated Cardiomyopathy.

Recommendations:

Dilated Cardiomyopathy is inherited in an autosomal dominant fashion with incomplete penetrance meaning that only one copy of the mutation is needed to be at an increased risk. However, not all dogs inheriting the mutation will develop disease. Based on this, and the fact that this dog showed a mutation in one copy of the *PDK4* gene, this dog is at risk for this disease. Unfortunately, dogs with Dilated Cardiomyopathy often die suddenly from an arrhythmia and may not show obvious clinical signs of heart failure. Dogs that show clinical signs of heart disease may exhibit exercise intolerance, fatigue, coughing, difficulty breathing, rapid breathing and fainting. For further evaluation of this dog, a heart exam with a board certified veterinary cardiologist is recommended. If bred, this dog will pass on one copy of the mutation to approximately 50% of its offspring who will, therefore, be at an increased risk for developing Dilated Cardiomyopathy. 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.

Paw Print Genetics® has genetic counseling available to you at no additional charge to answer any questions about these test results, their implications and potential outcomes in breeding this dog.



Helen F Smith, PhD
Assistant Laboratory Director



Casey R Carl, DVM
Associate Medical Director

Normal results do not exclude inherited mutations not tested in these or other genes that may cause medical problems or may be passed on to offspring. These tests were developed and their performance determined by Paw Print Genetics[®]. This laboratory has established and verified the tests' accuracy and precision. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think these results are in error, please contact the laboratory immediately for further evaluation. In the event of a valid dispute of results claim, Paw Print Genetics will do its best to resolve such a claim to the customer's satisfaction. If no resolution is possible after investigation by Paw Print Genetics with the cooperation of the customer, the extent of the customer's sole remedy is a refund of the fee paid. In no event shall Paw Print Genetics be liable for indirect, consequential or incidental damages of any kind. Any claim must be asserted within 60 days of the report of the test results.