

Canine Genetic Health Certificate™

Call Name:	Rita	Laboratory #:	117280
Registered Name:	Great Lakes Rita	Registration #:	SS06165204
Breed:	Labrador Retriever	Microchip #:	956000010242343
Sex:	Female	Certificate Date:	Jan. 9, 2019
DOB:	June 2018		

This canine's DNA showed the following genotype(s):

Disease	Gene	Genotype	Interpretation
Centronuclear Myopathy	<i>PTPLA</i>	WT/WT	Normal (clear)
Copper Toxicosis (Labrador Retriever Type) ATP7A	<i>ATP7A</i>	WT/M	Carrier Female
Copper Toxicosis (Labrador Retriever Type) ATP7B	<i>ATP7B</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	<i>SUV39H2</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	<i>PRCD</i>	WT/WT	Normal (clear)
Pyruvate Kinase Deficiency (Labrador Retriever Type)	<i>PKLR</i>	WT/WT	Normal (clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 1	<i>COL9A3</i>	WT/WT	Normal (clear)
Skeletal Dysplasia 2	<i>COL11A2</i>	WT/WT	Normal (clear)

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



Christina J Ramirez, PhD, DVM, DACVP
 Medical Director



Casey R Carl, DVM
 Associate Medical Director

Paw Print Genetics® performed the tests listed on this dog. See the Laboratory Report for interpretation and recommendations based on these findings. The genes/diseases reported here were selected by the client. 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. Genetic counseling is available at Paw Print Genetics.

Coat Color and Trait Certificate

Call Name:	Rita	Laboratory #:	117280
Registered Name:	Great Lakes Rita	Registration #:	SS06165204
Breed:	Labrador Retriever	Microchip #:	956000010242343
Sex:	Female	Certificate Date:	Jan. 9, 2019
DOB:	June 2018		

This canine's DNA showed the following genotype(s):

Coat Color/Trait Test	Gene	Genotype	Interpretation
B Locus (Brown)	<i>TYRP1</i>	B/b	Black coat, nose and foot pads (carries brown)
E Locus (Yellow/Red)	<i>MC1R</i>	E/e	Black (carries yellow/red)

Interpretation:

This dog carries one copy of **B** and at least one copy of **b** at the b^c , b^d or b^s locus making the overall B locus genotype of this dog **B/b**. The overall B locus genotype for a dog is determined by the combination of the genotypes at the b^c , b^d , and b^s loci. The b^c , b^d , and b^s variants confer brown coat, nose, and foot pads when at least one of these DNA changes is present on both genes of the dog at the B locus. If the dog has one or no copies of **b** then the dog will have a black coat, nose, and foot pads. However, this dog's coat color is also dependent on the E, K, and A genes. This dog will pass on **B** to 50% of its offspring and **b** to 50% of its offspring.

This dog carries one copy of **E** and one copy of **e** which allows for the production of black pigment. However, this dog's coat color is also dependent on the K, A, and B genes. This dog will pass **E** on to 50% of its offspring and **e** to 50% of its offspring, which can produce a yellow/red coat (including shades of white, cream, yellow, apricot or red) if inherited with another copy of **e**.

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.



Christina J Ramirez, PhD, DVM, DACVP
 Medical 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.

LABRADOR RETRIEVER GENETIC HEALTH PANEL TEST REPORT

<p>Provided Information:</p> <p>Name: GREAT LAKES RITA</p> <p>Registration: SS06165204</p>	<p>Case: NCD227498</p> <p>Date Received: 25-Sep-2023</p> <p>Report Issue Date: 29-Sep-2023</p> <p>Report ID: 7647-5334-8383-5191</p> <p style="text-align: center; font-size: small;">Verify report at www.vgl.ucdavis.edu/verify</p>
<p>DOB: 06/09/2018 Sex: Female Breed: Labrador Retriever Microchip: 956000010242343 Color: Black</p>	
<p>Call Name: Rita</p>	

RESULT

INTERPRETATION

Condition	Result	Interpretation
Centronuclear Myopathy (CNM)	N/N	No copies of the CNM mutation detected. Dog is normal.
Congenital Myasthenic Syndrome (CMS)	N/N	No copies of the CMS mutation detected. Dog is normal.
Copper Toxicosis	ATP7A	One copy of the ATP7A variant and may have decreased levels of hepatic copper.
	ATP7B	
Cystinuria Type I-A	N/N	No copies of the cystinuria type I-A mutation detected. Dog is normal.
Exercise Induced Collapse (EIC)	N/N	No copies of the EIC mutation detected. Dog is normal.
Degenerative Myelopathy (DM)	N/N	No copies of the DM mutation.
Hereditary Nasal Parakeratosis (HNPK)	N/N	No copies of the HNPK mutation detected. Dog is normal.
Hyperuricosuria	N/N	No copies of the hyperuricosuria mutation detected. Dog is normal.
Narcolepsy	N/N	Normal. Dog does not carry the Labrador narcolepsy associated variant.
Pyruvate Kinase Deficiency (PKDef)	N/N	No copies of the PKDef mutation. Dog is normal.
Stargardt Disease	N/S	Carrier. One copy of the Labrador Retriever Stargardt disease variant detected.
Skeletal Dysplasia 2 (SD2)	N/N	No copies of the SD2 mutation detected. Dog is normal.
X-Linked Myotubular Myopathy (XLMTM)	N/N	No copies of the MTM1 mutation detected. Female is normal.
Progressive Rod-Cone Degeneration (PRCD)	N/N	Normal. Dog does not have the variant associated with PRCD.
DILUTE (D LOCUS)	D/D	No known dilution variants present.