

### Canine Genetic Health Certificate™

Call Name:

Registered Name:

Reed

Sir Reed Of Southampton

Breed:

Labrador Retriever

Sex:

Male

DOB:

June 2021

Laboratory #:

431067

Registration #:

SS27841405

Certificate Date:

Feb. 13, 2024

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

Disease	Gene	Genotype	Interpretation
Centronuclear Myopathy	PTPLA	WT/WT	Normal (Clear)
Cone Degeneration (Labrador Retriever Type)	CNGA3	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome (Labrador Retriever Type)	COLQ	WT/WT	Normal (Clear)
Copper Toxicosis (Labrador Retriever Type) ATP7A	ATP7A	WT/Y	Normal/Clear Male
Copper Toxicosis (Labrador Retriever Type) ATP7B	ATP7B	WT/WT	Normal (Clear)
Cystinuria (Labrador Retriever Type)	SLC3A1	WT/WT	Normal (Clear)
Degenerative Myelopathy (Common Variant)	SOD1	WT/WT	Normal (Clear)
Elliptocytosis	SPTB	WT/WT	Normal (Clear)
Exercise-Induced Collapse	DNM1	WT/WT	Normal (Clear)
Hereditary Nasal Parakeratosis (Labrador Retriever Type)	SUV39H2	WT/WT	Normal (Clear)
Hyperuricosuria	SLC2A9	WT/WT	Normal (Clear)
Ichthyosis (Golden Retriever Type 1)	PNPLA1	WT/WT	Normal (Clear)

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

Paw Print Genetics® performed the testing on the dog listed on this certificate. 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. The results included in this report relate only to the items tested using the sample provided. These tests were developed and their performance determined by Paw Print Genetics. This laboratory has established and verified the test(s)' accuracy and precision with >99.9% sensitivity and specificity. The presence of mosaicism may not be detected by this test. Non-paternity may lead to unexpected results. This is not a breed identification test. 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.



4131 N. 48th St. Lincoln, NE 68504 www.pawprintgenetics.com (509) 483-5950

# **Laboratory Report**

Laboratory #:

431067

196206

Blake Haddock

Ordered: Received:

Ordered By:

Order #:

Dec. 12, 2023 Jan. 18, 2024

Reported:

Feb. 13, 2024

**Call Name:** 

Reed

**Registered Name:** 

Sir Reed Of Southampton Labrador Retriever

Breed: Sex: Male

DOB:

June 2021 ·

Registration #:

SS27841405

#### Results:

Cone Degeneration (Labrador Retriever Type) CONGA3 WT/WT Normal (Clear) Congenital Myasthenic Syndrome (Labrador Retriever Type) Copper Toxicosis (Labrador Retriever Type) ATP7A Copper Toxicosis (Labrador Retriever Type) ATP7B Copper Toxicosis (Labrador Retriever Type) Copper Toxicosis (Labrador Retriever Suntant) Copper WT/WT Copper Copper WT/WT Copper WT/WT Copper Copper Copper WT/WT Copper Copper Copper WT/WT Copper Copp	Disease	Gene	Genotype	Interpretation
Congenital Myasthenic Syndrome (Labrador Retriever Type) Copper Toxicosis (Labrador Retriever Type) ATP7A Copper Toxicosis (Labrador Retriever Type) ATP7B Copper Toxicosis (Labrador Retriever Type) ATP7B Copper Toxicosis (Labrador Retriever Type) ATP7B Copper Toxicosis (Labrador Retriever Type) Copper Toxicosis (Labrador Ret	Centronuclear Myopathy	PTPLA	WT/WT	Normal (Clear)
Type)  Copper Toxicosis (Labrador Retriever Type) ATP7A  ATP7A  WT/Y  Normal/Clear Male Copper Toxicosis (Labrador Retriever Type) ATP7B  ATP7B  WT/WT  Normal (Clear)  Cystinuria (Labrador Retriever Type)  Degenerative Myelopathy (Common Variant)  Elliptocytosis  SPTB  WT/WT  Normal (Clear)  WT/WT  Normal (Clear)  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)  Myotubular Myopathy 1 (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Normal (Clear)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  TTC8  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)  Progressive Retinal Atrophy, Progressive Rod-Cone  Degeneration  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia/Oculoskeletal Dysplasia 1  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)	Cone Degeneration (Labrador Retriever Type)	CNGA3	WT/WT	Normal (Clear)
Copper Toxicosis (Labrador Retriever Type) ATP7B ATP7B WT/WT Normal (Clear) Cystinuria (Labrador Retriever Type) SLC3A1 WT/WT Normal (Clear) Degenerative Myelopathy (Common Variant) SOD1 WT/WT Normal (Clear) Elliptocytosis SPTB WT/WT Normal (Clear) Exercise-Induced Collapse DNM1 WT/WT Normal (Clear) Hereditary Nasal Parakeratosis (Labrador Retriever SUV39H2 WT/WT Normal (Clear) Hyperuricosuria SLC2A9 WT/WT Normal (Clear) Hyperuricosuria SLC2A9 WT/WT Normal (Clear) Hordidary Corneal Dystrophy (Labrador Retriever Type) CHST6 WT/WT Normal (Clear) Myotubular Myopathy 1 (Labrador Retriever Type) MTM1 WT/Y Normal/Clear Male Narcolepsy (Labrador Retriever Type) HCRTR2 WT/WT Normal (Clear) Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 RPGRIP1 WT/WT Normal (Clear) Progressive Retinal Atrophy, Frogressive Rod-Cone PRCD WT/WT Normal (Clear) Degeneration Pyruvate Kinase Deficiency (Labrador Retriever Type) PKLR WT/WT Normal (Clear) Retinal Dysplasia 2 COL11A2 WT/WT Normal (Clear) Normal (Clear)	Congenital Myasthenic Syndrome (Labrador Retriever Type)	COLQ	WT/WT	Normal (Clear)
Cystinuria (Labrador Retriever Type)  SLC3A1  WT/WT  Normal (Clear)  Degenerative Myelopathy (Common Variant)  SOD1  WT/WT  Normal (Clear)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone  Degeneration  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia 2  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)	Copper Toxicosis (Labrador Retriever Type) ATP7A	ATP7A	WT/Y	Normal/Clear Male
Degenerative Myelopathy (Common Variant)  SOD1  WT/WT  Normal (Clear)  Elliptocytosis  SPTB  WT/WT  Normal (Clear)  Exercise-Induced Collapse  DNM1  WT/WT  Normal (Clear)  Hereditary Nasal Parakeratosis (Labrador Retriever  Type)  Hyperuricosuria  SLC2A9  WT/WT  Normal (Clear)  Morthyosis (Golden Retriever Type 1)  Macular Corneal Dystrophy (Labrador Retriever Type)  WT/WT  Normal (Clear)  Myotubular Myopathy 1 (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Fogressive Rod-Cone  Degeneration  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia/Oculoskeletal Dysplasia 1  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)  Normal (Clear)	Copper Toxicosis (Labrador Retriever Type) ATP7B	ATP7B	WT/WT	Normal (Clear)
Exercise-Induced Collapse  Exercise-Induced Collapse  Hereditary Nasal Parakeratosis (Labrador Retriever Type)  Hyperuricosuria  Ichthyosis (Golden Retriever Type 1)  Macular Corneal Dystrophy (Labrador Retriever Type)  Myotubular Myopathy 1 (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone  Degeneration  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia 2  Normal (Clear)  Normal (Clear)  PKLR  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)  Normal (Clear)  Normal (Clear)  Normal (Clear)	Cystinuria (Labrador Retriever Type)	SLC3A1	WT/WT	Normal (Clear)
Exercise-Induced Collapse  DNM1 WT/WT Normal (Clear)  Hereditary Nasal Parakeratosis (Labrador Retriever SUV39H2 WT/WT Normal (Clear)  Hyperuricosuria  SLC2A9 WT/WT Normal (Clear)  Normal (Clear)  Macular Corneal Dystrophy (Labrador Retriever Type)  Myotubular Myopathy 1 (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Normal (Clear)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Fogressive Rod-Cone  Perogressive Retinal Atrophy, Progressive Rod-Cone  Perogressive Rod-Cone  Perogressive Rod-Cone  Normal (Clear)	Degenerative Myelopathy (Common Variant)	SOD1	WT/WT	Normal (Clear)
Hereditary Nasal Parakeratosis (Labrador Retriever Type)  Hyperuricosuria  SLC2A9  WT/WT  Normal (Clear)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Frogressive Rod-Cone  Progressive Retinal Atrophy, Progressive Rod-Cone  PRCD  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)  Skeletal Dysplasia 2  COL11A2  WT/WT  Normal (Clear)	Elliptocytosis	SPTB	WT/WT	Normal (Clear)
Type) Hyperuricosuria SLC2A9 WT/WT Normal (Clear) Ichthyosis (Golden Retriever Type 1) Macular Corneal Dystrophy (Labrador Retriever Type) Myotubular Myopathy 1 (Labrador Retriever Type) Marcolepsy (Labrador Retriever Type) Marcolepsy (Labrador Retriever Type) MCRTR2 Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, Frogressive Rod-Cone Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Pyruvate Kinase Deficiency (Labrador Retriever Type) Retinal Dysplasia/Oculoskeletal Dysplasia 1 COL9A3 WT/WT Normal (Clear) Normal (Clear) Skeletal Dysplasia 2 COL11A2 WT/WT Normal (Clear)	Exercise-Induced Collapse	DNM1	WT/WT	Normal (Clear)
Achthyosis (Golden Retriever Type 1)  Macular Corneal Dystrophy (Labrador Retriever Type)  Myotubular Myopathy 1 (Labrador Retriever Type)  Marcolepsy (Labrador Retriever Type)  MTM1  MT/Y  Normal (Clear)  Normal (Clear Male  Narcolepsy (Labrador Retriever Type)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone  Normal (Clear)  Normal (Clear)  Normal (Clear)  Normal (Clear)  Normal (Clear)  Normal (Clear)	Hereditary Nasal Parakeratosis (Labrador Retriever Type)	SUV39H2	WT/WT	Normal (Clear)
Macular Corneal Dystrophy (Labrador Retriever Type)  Myotubular Myopathy 1 (Labrador Retriever Type)  MTM1  WT/Y  Normal/Clear Male  Narcolepsy (Labrador Retriever Type)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone  Progressive Retinal Dysplasia Atrophy, Progressive Rod-Cone  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia/Oculoskeletal Dysplasia 1  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)	Hyperuricosuria	SLC2A9	WT/WT	Normal (Clear)
Myotubular Myopathy 1 (Labrador Retriever Type)  Narcolepsy (Labrador Retriever Type)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone  Progressive Retinal Atrophy, Progressive Rod-Cone  Pegeneration  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia/Oculoskeletal Dysplasia 1  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)  Normal (Clear)	Ichthyosis (Golden Retriever Type 1)	PNPLA1	WT/WT	Normal (Clear)
Narcolepsy (Labrador Retriever Type)  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone  Progressive Retinal Atrophy, Progressive Rod-Cone  Perogressive Rod-Cone  Perogr	Macular Corneal Dystrophy (Labrador Retriever Type)	CHST6	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone  PRCD  WT/WT  Normal (Clear)  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia/Oculoskeletal Dysplasia 1  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)  Keletal Dysplasia 2  COL11A2  WT/WT  Normal (Clear)	Myotubular Myopathy 1 (Labrador Retriever Type)	MTM1	WT/Y	Normal/Clear Male
Progressive Retinal Atrophy, Golden Retriever 2  Progressive Retinal Atrophy, Progressive Rod-Cone PRCD  WT/WT  Normal (Clear)  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia/Oculoskeletal Dysplasia 1  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)	Narcolepsy (Labrador Retriever Type)	HCRTR2	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration  Pyruvate Kinase Deficiency (Labrador Retriever Type)  Retinal Dysplasia/Oculoskeletal Dysplasia 1  COL9A3  WT/WT  Normal (Clear)  Normal (Clear)  Keletal Dysplasia 2  COL11A2  WT/WT  Normal (Clear)	Progressive Retinal Atrophy, Cone-Rod Dystrophy 4	RPGRIP1	WT/WT	Normal (Clear)
Degeneration  Pyruvate Kinase Deficiency (Labrador Retriever Type) PKLR WT/WT Normal (Clear)  Retinal Dysplasia/Oculoskeletal Dysplasia 1 COL9A3 WT/WT Normal (Clear)  Skeletal Dysplasia 2 COL11A2 WT/WT Normal (Clear)	Progressive Retinal Atrophy, Golden Retriever 2	TTC8	WT/WT	Normal (Clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 1 COL9A3 WT/WT Normal (Clear) Skeletal Dysplasia 2 COL11A2 WT/WT Normal (Clear)	Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	PRCD	WT/WT	Normal (Clear)
Skeletal Dysplasia 2 COL11A2 WT/WT Normal (Clear)	Pyruvate Kinase Deficiency (Labrador Retriever Type)	PKLR	WT/WT	Normal (Clear)
North (Clear)	Retinal Dysplasia/Oculoskeletal Dysplasia 1	COL9A3	WT/WT	Normal (Clear)
Stargardt Disease ABCA4 WT/WT Normal (Clear)	Skeletal Dysplasia 2	COL11A2	WT/WT	Normal (Clear)
	Stargardt Disease	ABCA4	WT/WT	Normal (Clear)

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

#### Interpretation:



# Canine Genetic Health Certificate™

Call Name:

Reed

**Registered Name:** 

Sir Reed Of Southampton

Breed:

Labrador Retriever

Sex:

Male

DOB:

June 2021

Laboratory #:

431067

Registration #: Certificate Date: SS27841405

. Feb. 13, 2024

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

Disease	Gene	Genotype	Interpretation
Macular Corneal Dystrophy (Labrador Retriever Type)	CHST6	WT/WT	Normal (Clear)
Myotubular Myopathy 1 (Labrador Retriever Type)	MTM1	WT/Y	Normal/Clear Male
Narcolepsy (Labrador Retriever Type)	HCRTR2	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4	RPGRIP1	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Golden Retriever 2	TTC8	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	PRCD	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency (Labrador Retriever Type)	PKLR	WT/WT	Normal (Clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 1	COL9A3	WT/WT	Normal (Clear)
Skeletal Dysplasia 2	COL11A2	WT/WT	Normal (Clear)
Stargardt Disease	ABCA4	WT/WT	Normal (Clear)

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

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## **Coat Color and Trait Certificate**

Call Name:

Reed

**Registered Name:** 

Sir Reed Of Southampton

Breed:

Labrador Retriever

Sex:

Male

DOB:

June 2021

Laboratory #:

431067

Registration #: Certificate Date:

SS27841405

Feb. 13, 2024

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
B Locus (Brown)	TYRP1	B/b	Black coat, nose and foot pads (carries one copy of brown)
D Locus (Dilute)	MLPH	D/D	Non-dilute (does not carry dilute)
E Locus	MC1R	$e^{1}/e^{1}$	Yellow/Red

### Interpretation:

This dog carries one copy of one of the b mutations and has a B locus genotype of B/b. Thus, this dog typically will have a black coat, nose, and foot pads. However, this dog's coat color is dependent on the genotypes of many other genes. This dog will pass one copy of B to 50% of its offspring and one copy of b to 50% of its offspring. This dog can produce b/b offspring if bred to a dog that is also a Carrier of a b Mutation (B/b or b/b). Depending on the breed, b/b dogs may be referred to as brown, chocolate, liver or red.

This dog does not carry any copies of the  $d^1$ ,  $d^2$ , or  $d^3$  mutations and has a D locus genotype of D/D which does not result in the dilution or lightening of the pigments that produce the dog's coat color. This dog will pass one copy of D to 100% of its offspring and cannot produce d/d dogs.

This dog carries two copies of  $e^1$  which inhibits production of black pigment. The coat color of this dog will be yellow/red (including shades of white, cream, yellow, apricot or red). This dog will pass  $e^1$  on to 100% of its offspring.

Paw Print Genetics<sup>®</sup> 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.

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