



## Canine Genetic Health Certificate™

**Call Name:** Clarence  
**Registered Name:** Sandstone Tenth Avenue Freezeout  
**Breed:** Labrador Retriever  
**Sex:** Male  
**DOB:** Sept. 2021

**Laboratory #:** 269592  
**Registration #:** SS297290/01  
**Microchip #:** 981020041038095  
**Certificate Date:** Dec. 7, 2021

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

Disease	Gene	Genotype	Interpretation
Exercise-Induced Collapse	<i>DNM1</i>	WT/WT	Normal (clear)
Hereditary Nasal Parakeratosis	<i>SUV39H2</i>	WT/WT	Normal (clear)
Macular Corneal Dystrophy (Labrador Retriever Type)	<i>CHST6</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	<i>PRCD</i>	WT/WT	Normal (clear)

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

**Blake C Ballif, PhD**  
Laboratory & Scientific 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

<b>Call Name:</b>	Clarence	<b>Laboratory #:</b>	269592
<b>Registered Name:</b>	Sandstone Tenth Avenue Freezeout	<b>Registration #:</b>	SS297290/01
<b>Breed:</b>	Labrador Retriever	<b>Microchip #:</b>	981020041038095
<b>Sex:</b>	Male	<b>Certificate Date:</b>	Dec. 7, 2021
<b>DOB:</b>	Sept. 2021		

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
D Locus (Dilute)	<i>MLPH</i>	D/D	Non-dilute (does not carry dilute)
E Locus (Apricot/Yellow/Red) - e (Common Variant Found in Many Breeds)	<i>MC1R</i>	E/e	Black (carries yellow/red)
L Locus (Long Hair/Fluffy) - Lh <sup>1</sup> (Common Variant Found in Many Breeds)	<i>FGF5</i>	Sh/Sh	Shorthaired (does not carry long hair)

**Interpretation:**

This dog does not carry any copies of the d<sup>1</sup> or d<sup>2</sup> 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 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**.

This dog carries two copies of **Sh** which results in short hair. This dog will pass on **Sh** to 100% of its offspring.

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.



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## Laboratory Report

<b>Laboratory #:</b>	269592	<b>Call Name:</b>	Clarence
<b>Order #:</b>	122628	<b>Registered Name:</b>	Sandstone Tenth Avenue Freezeout
<b>Ordered By:</b>	Susan Leonard	<b>Breed:</b>	Labrador Retriever
<b>Ordered:</b>	Nov. 11, 2021	<b>Sex:</b>	Male
<b>Received:</b>	Nov. 26, 2021	<b>DOB:</b>	Sept. 2021
<b>Reported:</b>	Dec. 7, 2021	<b>Registration #:</b>	SS297290/01
		<b>Microchip #:</b>	981020041038095

### Results:

Disease	Gene	Genotype	Interpretation
Exercise-Induced Collapse	<i>DNM1</i>	WT/WT	Normal (clear)
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### Interpretation:

Molecular genetic analysis was performed for four specific mutations reported to be associated with disease in dogs. We identified two normal copies of the DNA sequences in four mutations tested. Thus, this dog is not at an increased risk for the diseases associated with these four mutations.

### Recommendations:

No mutations were identified. Thus, this dog is not at an increased risk for the diseases caused by or associated with the mutations tested. Because this dog is "clear" of these mutations, this dog will only pass the normal genes on to its offspring. 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. 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.



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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.