

Laboratory Report

** Amended Report **

Laboratory #:	112867	Call Name:	Chaos
Order #:	51689	Registered Name:	Ch. Empress Pandemonium BCAT
Ordered By:	Dawn Nacey	Breed:	Labrador Retriever
Ordered:	Dec. 18, 2018	Sex:	Male
Received:	Jan. 17, 2019	DOB:	Jan. 2018
Reported:	Jan. 25, 2019	Registration #:	SS08744701
Amended:	Nov. 26, 2019	Microchip #:	941000022880333
Amended:	Oct. 30, 2023		

Results:

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

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

Interpretation:

Molecular genetic analysis was performed for a specific mutation reported to be associated with Exercise-Induced Collapse in dogs. We identified two normal copies of the DNA sequences in the mutation tested.

Recommendations:

No mutations were identified. Thus, this dog is not at an increased risk for the disease caused by or associated with the mutation tested. Because this dog is "clear" of this mutation, this dog will only pass the normal gene on to its offspring. Normal results do not exclude inherited mutations not tested in this gene 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.

**Note: At the client's request, this laboratory report and accompanying Canine Genetic Health Certificate® were amended on Nov. 26, 2019 to update the call name for this dog.*

NOTE: The following fields were adjusted at the client's request on Oct 30, 2023: Registration ID, Registered Name, Microchip Id

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.

Laboratory Report

** Amended Report **

Laboratory #:	112867	Call Name:	Chaos
Order #:	49411	Registered Name:	Ch. Empress Pandemonium BCAT
Ordered By:	Dawn Nacey	Breed:	Labrador Retriever
Ordered:	Nov. 23, 2018	Sex:	Male
Received:	Jan. 17, 2019	DOB:	Jan. 2018
Reported:	Jan. 25, 2019	Registration #:	SS08744701
Amended:	Nov. 26, 2019	Microchip #:	941000022880333
Amended:	Oct. 30, 2023		

Results:

Disease	Gene	Genotype	Interpretation
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	<i>PRCD</i>	WT/WT	Normal (Clear)

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

Interpretation:

Molecular genetic analysis was performed for a specific mutation reported to be associated with Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration in dogs. We identified two normal copies of the DNA sequences in the mutation tested.

Recommendations:

No mutations were identified. Thus, this dog is not at an increased risk for the disease caused by or associated with the mutation tested. Because this dog is "clear" of this mutation, this dog will only pass the normal gene on to its offspring. Normal results do not exclude inherited mutations not tested in this gene 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.

**Note: At the client's request, this laboratory report and accompanying Canine Genetic Health Certificate® were amended on Nov. 26, 2019 to update the call name for this dog.*

NOTE: The following fields were adjusted at the client's request on Oct 30, 2023: Registration ID, Registered Name, Microchip Id

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Laboratory Report

** Amended Report **

Laboratory #:	112867	Call Name:	Chaos
Order #:	112758	Registered Name:	Ch. Empress Pandemonium BCAT
Ordered By:	Dawn Nacey	Breed:	Labrador Retriever
Ordered:	July 7, 2021	Sex:	Male
Received:	Aug. 3, 2021	DOB:	Jan. 2018
Reported:	Aug. 9, 2021	Registration #:	SS08744701
Amended:	Oct. 30, 2023	Microchip #:	941000022880333

Results:

Disease	Gene	Genotype	Interpretation
Stargardt Disease	ABCA4	WT/M	Carrier

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

Interpretation:

Molecular genetic analysis was performed for a specific mutation reported to be associated with Stargardt Disease in dogs. We identified one normal copy and one mutant copy of the DNA sequences for *ABCA4*. Thus, this dog is a carrier of Stargardt Disease.

Recommendations:

Stargardt Disease is inherited in an autosomal recessive fashion. Based on this, and the fact that this dog showed a mutation in one copy of the *ABCA4* gene, this dog is a carrier of this disease. Although dogs that carry only one copy of this mutation will not be clinically affected, if bred with another carrier, the pairing could produce affected offspring. To avoid producing affected offspring, this dog should be bred with dogs that are normal (WT/WT) for this gene. 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.

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Laboratory Report

** Amended Report **

Laboratory #:	112867	Call Name:	Chaos
Order #:	185642	Registered Name:	Ch. Empress Pandemonium BCAT
Ordered By:	Dawn Nacey	Breed:	Labrador Retriever
Ordered:	June 6, 2023	Sex:	Male
Received:	June 8, 2023	DOB:	Jan. 2018
Reported:	June 20, 2023	Registration #:	SS08744701
Amended:	Oct. 30, 2023	Microchip #:	941000022880333

Results:

Disease	Gene	Genotype	Interpretation
Copper Toxicosis (Labrador Retriever Type) ATP7A	ATP7A	M/Y	Carrier Male
Copper Toxicosis (Labrador Retriever Type) ATP7B	ATP7B	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 copper toxicosis in dogs (one deleterious mutation and one protective mutation). We identified two normal copies of the DNA sequences in the *ATP7B* gene tested. Thus, this dog is not at an increased risk for Copper Toxicosis (Labrador Retriever Type) ATP7B. In addition, we identified one mutant copy of the DNA sequence for *ATP7A* on the X chromosome. Thus, this dog carries one copy of the protective mutation for Copper Toxicosis (Labrador Retriever Type) ATP7A.

Recommendations:

No mutations were identified in the *ATP7B* gene. Thus, this dog is not at an increased risk for copper toxicosis. This dog was also tested for a genetic mutation of the canine *ATP7A* gene which partially protects against copper toxicosis in dogs that have inherited the *ATP7B* mutation described above. This dog carries one copy of the *ATP7A* gene mutation. The *ATP7A* gene mutation is more effective at decreasing the risk of copper toxicosis in male dogs than females. However, since multiple factors (both genetic and environmental) play a role in causing copper toxicosis, the *ATP7A* mutation is not completely protective in either sex. Note: The *ATP7A* mutation is located on the X chromosome. Since males only have a single X chromosome they can only inherit a single copy of this mutation.

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.

NOTE: The following fields were adjusted at the client's request on Oct 30, 2023: Registration ID, Registered Name, Microchip Id

Paw Print Genetics® performed the tests listed on this dog. 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 any 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.

Single Report

Animal Name: Chaos

Owner:

Dawn Nacey

Membership Number : Not assigned

Member Body/Breed Club: Not assigned

Approved Collection Method: No





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this Report online

Single Report

Owner's details

Name: Dawn Nacey

Animal's Details

Registered Name : Empress Pandemonium

Pet Name : Chaos

Registration Number : SS087447/01

Breed: : Labrador Retriever

Microchip Number : 941000022880333

Sex: : Intact Male

Date of Birth : 10th Oct 2018

Colour : black

Sample Collection Details

Case Number : 19220584

Collected By :

Approved Collection : No

Sample Type : SWAB

Test Details

Test Requested : Macular Corneal Dystrophy (Labrador Type)

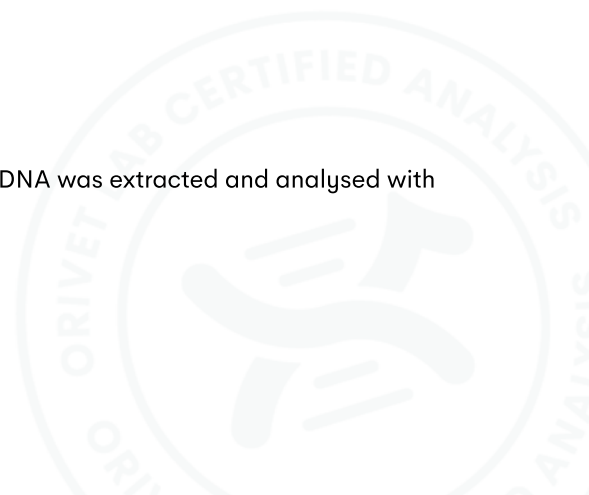
Pet Name : Chaos

Date of Test : 24th Dec 2019

Authorisation

Sample with Lab ID Number 19220584 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported:

.....
Orivet Genetic Analyst





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Single Report

Animal's Details

Registered Name :	Empress Pandemonium
Pet Name :	Chaos
Registration Number :	SS087447/01
Breed :	Labrador Retriever
Microchip Number :	941000022880333
Sex :	Intact Male
Date of Birth :	10th Oct 2018
Colour :	black

Sample with Lab ID Number 19220584 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : MACULAR CORNEAL DYSTROPHY (LABRADOR TYPE)

Result : NORMAL (N/N) - [NO VARIANT DETECTED] ¹

Gene : CHST6

Variant Detected : chr5:75279762 (canFam3): C>A

Interpretation: DNA analysis indicates that this animal is Normal (Clear) at the tested locus. No copies of the disease-associated variant (mutation) were detected. The genotype result is described as Negative, NN, -/-, "wild type (WT/WT)", or homozygous negative. Implications: This dog does not have the genetic mutation associated with the condition. It will not develop the associated disease due to this mutation. It cannot pass on the disease-causing variant to its offspring. Summary: The animal is genetically clear for the tested condition.

Clarification of Genetic Testing

Genetic inheritance is not a simple process, and may be complicated by several factors. Below is some information to help clarify these factors.

- 1) Some diseases may demonstrate signs of what Geneticists call "genetic heterogeneity". This is a term to describe an apparently single condition that may be caused by more than one mutation and/or gene
- 2) It is possible that there exists more than one disease that presents in a similar fashion and segregates in a single breed. These conditions - although phenotypically similar - may be caused by separate mutations and/or genes.
- 3) It is possible that the disease affecting your breed may be what Geneticists call an "oligogenic disease". This is a term to describe the existence of additional genes that may modify the action of a dominant gene associated with a disease. These modifier genes may for example give rise to a variable age of onset for a particular condition, or affect the penetrance of a particular mutation such that some animals may never develop the condition.

The range of hereditary diseases continues to increase and we see some that are relatively benign and others that can cause severe and/or fatal disease. Diagnosis of any disease should be based on pedigree history, clinical signs, history (incidence) of the disease and the specific genetic test for the disease. Penetrance of a disease will always vary not only from breed to breed but within a breed, and will vary with different diseases. Factors that influence penetrance are genetics, nutrition and environment. Although genetic testing should be a priority for breeders, we strongly recommend that temperament and phenotype also be considered when breeding.

Owner's Name : Dawn Nacey

Pet Name : Chaos

Microchip Number 941000022880333

Approved Collection Method : No



Coat Color and Trait Certificate

Call Name:	Chaos	Laboratory #:	112867
Registered Name:	Ch. Empress Pandemonium BCAT	Registration #:	SS08744701
Breed:	Labrador Retriever	Microchip #:	941000022880333
Sex:	Male	Certificate Date:	Oct. 30, 2023
DOB:	Jan. 2018		

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
E Locus - e (Apricot/Cream/Red/Yellow, Common Variant Found in Many Breeds)	MC1R	E/e	Black (carries yellow/red)

Interpretation:

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**.

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Coat Color and Trait Certificate

Call Name:	Chaos	Laboratory #:	112867
Registered Name:	Ch. Empress Pandemonium BCAT	Registration #:	SS08744701
Breed:	Labrador Retriever	Microchip #:	941000022880333
Sex:	Male	Certificate Date:	Oct. 30, 2023
DOB:	Jan. 2018		

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
D Locus (Dilute) - d ¹ , d ²	MLPH	D/D	Non-dilute (does not carry dilute)
E Locus - e (Apricot/Cream/Red/Yellow, Common Variant Found in Many Breeds)	MC1R	E/e	Black (carries yellow/red)

Interpretation:

This dog does not carry any copies of the d¹ or d² 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**.

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