Paw Print Genetics
A division of Genetic Veterinary Sciences, Inc.

Canine Genetic Health Certificate™

Call Name:	Kaiser	**Laboratory #:**	50171
Registered Name:	Karamar Royal Shades of Ebony	**Registration #:**	SR860665/09
Breed:	Labrador Retriever	**Microchip #:**	900085000074663
Sex:	Male	**Certificate Date:**	April 19, 2017
DOB:	Jan. 2015		

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

Disease	Gene	Genotype	Interpretation
Centronuclear Myopathy	*PTPLA*	WT/WT	Normal (clear)
Hereditary Nasal Parakeratosis	*SUV39H2*	WT/WT	Normal (clear)

WT, wild type (normal); M, mutant

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.

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Coat Color and Trait Certificate

Call Name:	Kaiser	**Laboratory #:**	50171
Registered Name:	Karamar Royal Shades of Ebony	**Registration #:**	SR860665/09
Breed:	Labrador Retriever	**Microchip #:**	900085000074663
Sex:	Male	**Certificate Date:**	April 19, 2017
DOB:	Jan. 2015		

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
D Locus (Dilute)	*MLPH*	D/D	Non dilute
E Locus (Yellow/Red)	*MC1R*	E/E	Black

Interpretation:

This dog carries two copies of **D** which does not result in the "dilution" or lightening of the black and yellow/red pigments that produce the dog's coat color. The base coat color of this dog will be primarily determined by the E, K, A, and B genes. This dog will pass on **D** to 100% of its offspring.

This dog carries two copies 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 on **E** 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.

Christina J Ramirez, PhD, DVM, DACVP
Medical Director

Casey R Carl, DVM
Associate Medical Director

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Canine Genetic Health Certificate™

Call Name:	Maia	**Laboratory #:**	26436
Registered Name:	Karamar Cinco de Mayo	**Registration #:**	SR62264301
Breed:	Labrador Retriever	**Microchip #:**	956 00000 2423576
Sex:	Female	**Certificate Date:**	May 2, 2016
DOB:	May 2010		

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

Disease	Gene	Genotype	Interpretation
Exercise-induced collapse	*DNM1*	WT/WT	Normal (clear)
Progressive retinal atrophy, Progressive rod-cone degeneration	*PRCD*	WT/WT	Normal (clear)
Retinal dysplasia/Oculoskeletal dysplasia 1	*COL9A3*	WT/WT	Normal (clear)

WT, wild type (normal); M, mutant

Progressive retinal atrophy, Progressive rod-cone degeneration and Retinal dysplasia/Oculoskeletal dysplasia 1 were performed under an exclusive sublicense from OptiGen®, LLC

Blake C Ballif, PhD
Laboratory & Scientific Director

Casey R Carl, DVM
Associate Medical Director

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