

## Canine Genetic Health Certificate™

<b>Call Name:</b>	Beverly	<b>Laboratory #:</b>	132122
<b>Registered Name:</b>	-	<b>Registration #:</b>	-
<b>Breed:</b>	French Bulldog	<b>Certificate Date:</b>	Oct. 25, 2019
<b>Sex:</b>	Female		
<b>DOB:</b>	June 2018		

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

Disease	Gene	Genotype	Interpretation
Degenerative Myelopathy	<i>SOD1</i>	WT/WT	Normal (clear)
Hereditary Cataracts	<i>HSF4</i>	WT/WT	Normal (clear)
Hyperuricosuria	<i>SLC2A9</i>	WT/WT	Normal (clear)
Multifocal Retinopathy 1	<i>BEST1</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4	<i>RPGRIP1</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

<b>Call Name:</b>	Beverly	<b>Laboratory #:</b>	132122
<b>Registered Name:</b>	-	<b>Registration #:</b>	-
<b>Breed:</b>	French Bulldog	<b>Certificate Date:</b>	Oct. 24, 2019
<b>Sex:</b>	Female		
<b>DOB:</b>	June 2018		

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
A Locus (Agouti)	<i>ASIP</i>	$A^Y/a^t$	Sable/fawn (carries tricolor/black and tan)
D Locus (Dilute)	<i>MLPH</i>	d/d	Dilute
E Locus (Yellow/Red)	<i>MC1R</i>	E/e	Black (carries yellow/red)
$E^m$ Locus (Melanistic Mask)	<i>MC1R</i>	N/N	No melanistic mask
S Locus (White Spotting, Parti, or Piebald)	<i>MITF</i>	S/S	No white spotting, flash, parti, or piebald

### Interpretation:

This dog carries one copy of  $A^Y$  and one copy of  $a^t$  which results in a sable/fawn coat color. However, this dog's coat color is also dependent on the E, K, and B genes. The sable/fawn coat color is only expressed if the dog is also E/E or E/e at the E locus and  $k^Y/k^Y$  at the K locus which allows for agouti gene expression. This dog will pass on  $A^Y$  to 50% of its offspring and  $a^t$  to 50% of its offspring.

This dog carries two copies of **d** which results in the "dilution" or lightening of the black and yellow/red pigments that produce this dog's coat color. However, this variant modifies or "dilutes" the base coat color of the dog that is primarily determined by the E, K, A, and B genes. This dog will pass on **d** to 100% 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**.

This dog carries two copies of **N** which does not result in a melanistic mask on the muzzle of the dog. This dog will pass on **N** to 100% of its offspring.

This dog carries two copies of **S** which results in a solid coat with no white spotting, flash, parti, or piebald coat color. This dog will pass on one copy of **S** 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.