

Coat Color and Trait Certificate

| | | | |
|-------------------------|----------------|--------------------------|---------------|
| Call Name: | Ellie | Laboratory #: | 303921 |
| Registered Name: | - | Registration #: | - |
| Breed: | French Bulldog | Certificate Date: | July 11, 2022 |
| Sex: | Female | | |
| DOB: | May 2021 | | |

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^Y | Sable/fawn |
| B Locus (Brown) | <i>TYRP1</i> | B/B | Black coat, nose and foot pads (does not carry brown) |
| Co Locus (Cocoa, French Bulldog Type) | <i>HPS3</i> | CO/co | Black coat, nose and foot pads (carries one copy of cocoa) |
| D Locus (Dilute) | <i>MLPH</i> | d/d | Dilute (carries two copies of dilute) |
| E Locus - E^m (Melanistic Mask) | <i>MC1R</i> | N/N | No melanistic mask |
| E Locus - e (Apricot/Cream/Red/Yellow, Common Variant Found in Many Breeds) | <i>MC1R</i> | E/E | Black |
| I Locus (Intensity) | <i>MFSN12</i> | I/I | Normal intensity (carrier) |
| K Locus (Dominant Black) | <i>CBD103</i> | k^Y/k^Y | Agouti expression allowed |
| L Locus (Long Hair/Fluffy) - Lh^1 (Common Variant Found in Many Breeds) | <i>FGF5</i> | Sh/Lh | Shorthaired (carries one copy of long hair) |
| L Locus (Long Hair/Fluffy) - Lh^4 (Afghan Hound, Eurasier, French Bulldog Type) | <i>FGF5</i> | Sh/Sh | Shorthaired (does not carry long hair) |
| M Locus (Merle) | <i>PMEL</i> | m/m | Non merle |
| S Locus (White Spotting, Parti, or Piebald) | <i>MITF</i> | S/S | No white spotting, flash, parti, or piebald |

Interpretation:

This dog carries two copies of A^Y 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 100% of its offspring.

This dog does not carry any copies of the b^a , b^c , b^d or b^s 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 100% of its offspring and cannot produce b/b dogs.



Canine Genetic Health Certificate™

Call Name: Ellie
Registered Name: -
Breed: French Bulldog
Sex: Female
DOB: May 2021

Laboratory #: 303921
Registration #: -
Certificate Date: July 11, 2022

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

| Disease | Gene | Genotype | Interpretation |
|--|---------|----------|----------------|
| Cystinuria Type 3 (Bulldog Type Risk Factor) - Variant 2 | SLC3A1 | WT/WT | Normal (clear) |
| Cystinuria Type 3 (Bulldog Type Risk Factor) - Variant 3 | SLC7A9 | WT/WT | Normal (clear) |
| Degenerative Myelopathy | SOD1 | WT/WT | Normal (clear) |
| Hereditary Cataracts | HSF4 | WT/WT | Normal (clear) |
| Hyperuricosuria | SLC2A9 | WT/WT | Normal (clear) |
| Multifocal Retinopathy 1 | BEST1 | WT/WT | Normal (clear) |
| Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 | RPGRIP1 | WT/WT | Normal (clear) |

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

Blake C Ballif, PhD
Laboratory & Scientific Director

Christina J Ramirez, PhD, DVM, DACVP
Medical Director

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.

Canine Genetic Health Certificate™

Call Name: Ellie
Registered Name: -
Breed: French Bulldog
Sex: Female
DOB: May 2021

Laboratory #: 303921
Registration #: -
Certificate Date: July 11, 2022

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

| Disease | Gene | Genotype | Interpretation |
|-------------------------|---------------|----------|----------------|
| Degenerative Myelopathy | <i>SOD1</i> | WT/WT | Normal (clear) |
| Hyperuricosuria | <i>SLC2A9</i> | WT/WT | Normal (clear) |

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



Blake C Ballif, PhD
Laboratory & Scientific Director



Christina J Ramirez, PhD, DVM, DACVP
Medical Director

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.