

Coat Color and Trait Certificate

Call Name:	BRE	Laboratory #:	113989
Registered Name:	Blacice Southern Breeze at Twin River	Registration #:	SS02419103
Breed:	Labrador Retriever	Microchip #:	956000009936593
Sex:	Female	Certificate Date:	Dec. 19, 2018
DOB:	Oct. 2017		

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
B Locus (Brown)	<i>TYRP1</i>	B/B	Black coat, nose and foot pads
D Locus (Dilute)	<i>MLPH</i>	D/D	Non dilute
E Locus (Yellow/Red)	<i>MC1R</i>	e/e	Yellow/red
K Locus (Dominant Black)	<i>CBD103</i>	K ^B /K ^Y	No agouti expression allowed (carrier)
L Locus (Long Hair/Fluffy)	<i>FGF5</i>	Sh/Sh	Shorthaired

Interpretation:

This dog carries two copies of **B** at all three of the b^c, b^d and b^s loci making the overall B locus genotype of this dog **B/B**. The overall B locus genotype for a dog is determined by the combination of the genotypes at the b^c, b^d, and b^s loci. The b^c, b^d, and b^s variants confer brown coat, nose, and foot pads when at least one of these DNA changes is present on both genes of the dog at the B locus. If the dog has one or no copies of **b** then the dog will have a black coat, nose, and foot pads. However, this dog's coat color is also dependent on the E, K, and A genes. This dog will pass on **B** to 100% of its offspring.

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 inhibits production of black pigment. The coat color of this dog will be yellow/red (including shades of white, cream, yellow, apricot or red). This dog will pass **e** on to 100% of its offspring.

This dog carries one copy of **K^B** and one copy of **k^Y** which prevents expression of the agouti gene (A locus) and allows for solid eumelanin (black pigment) production in pigmented areas of the dog. However, this dog's coat color is also dependent on its genotypes at the E and B genes. This dog will pass on **K^B** to 50% of its offspring and **k^Y** to 50% of its offspring.

This dog carries two copies of **Sh** which results in short hair. However, the overall coat type of this dog is dependent on the combination of this dog's genotypes at the L, Cu, and IC loci. This dog will pass **Sh** on 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.