

Coat Color and Trait Certificate

Call Name:	BRENN	Laboratory #:	243702
Registered Name:	BRENN OF THE KINNI	Registration #:	SS26135802
Breed:	Golden Retriever	Microchip #:	933000320531301
Sex:	Female	Certificate Date:	July 13, 2021
DOB:	April 2021		

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
A Locus (Agouti)	<i>ASIP</i>	a^t/a^t	Tricolor, black and tan
A^S Locus (Saddle Tan)	<i>RALY</i>	N/N	No saddle tan/creeping tan
B Locus (Brown)	<i>TYRP1</i>	B/B	Black coat, nose and foot pads (does not carry brown)
E Locus (Yellow/Red)	<i>MC1R</i>	e/e	Yellow/red
IC Locus (Improper Coat/Furnishings)	<i>RSPO2</i>	IC/IC	No furnishings, improper coat
K Locus (Dominant Black)	<i>CBD103</i>	K^B/K^B	No agouti expression allowed

Interpretation:

This dog carries two copies of a^t which results in tan points and can also present as a black and tan or tricolor coat color. However, this dog's coat color is also dependent on the E, K, and B genes. The tan point 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. This dog will pass on a^t to 100% of its offspring.

This dog carries two copies of the **N** allele, which is not associated with a saddle tan coat color. This dog's coat color is also dependent on the E, A, and K genes, among others. This dog will pass **N** 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.

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 two copies of **IC** and will therefore have no furnishings (improper coat). This dog does not carry the mutation for weak furnishings. 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 **IC** (improper coat) to 100% of its offspring and can produce puppies with improper coat if bred with a dog that carries one or two copies of the mutation for improper coat.

The K locus genotype for this dog is K^B/K^B 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 loci. This dog will pass on K^B 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.



Blake C Ballif, PhD
Laboratory & Scientific Director



Casey R Carl, DVM
Associate Medical Director

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.