

Coat Color and Trait Certificate

Call Name: Gibson **Laboratory #:** 262222
Registered Name: Respect Me As The Innovator **Registration #:** DN68232304
Breed: Australian Shepherd **Certificate Date:** Dec. 19, 2023
Sex: Male
DOB: Aug. 2021

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

Coat Color/Trait Test	Gene	Genotype	Interpretation
A Locus (Agouti)	ASIP	a ^t /a ^t	Tricolor, black and tan
B Locus (Brown)	TYRP1	b/b	Brown coat, nose and foot pads (carries two copies of brown)
E Locus	MC1R	E/E	Black
K Locus (Dominant Black)	CBD103	k ^y /k ^y	Agouti expression allowed
M Locus (Merle)	PMEL	m/m	Non merle
S Locus (White Spotting, Parti, or Piebald)	MITF	S/S	No white spotting, flash, parti, or piebald
T Locus (Natural Bobtail)	T	t/T	Bobtail

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 one of the same b mutation and has a B locus genotype of b/b. Thus, this dog typically will have a brown coat, nose and foot pads. Depending on the breed, b/b dogs may be referred to as brown, chocolate, liver or red. 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. This dog can produce b/b offspring if bred to a dog that is also a carrier of a b mutation (B/b or b/b).

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 E on 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 **E** on to 100% of its offspring.

This dog carries two copies of **k^y** which allows for the expression of the agouti gene (A locus) which can result in a variety of coat colors including sable/fawn, tricolor, tan points, black or brown. However, this dog's coat color is dependent on its genotypes at the E, A and B genes. This dog will pass on **k^y** to 100% of its offspring.

This dog carries two copies of **m**, the non-merle, wild-type allele of the *PMEL* gene, and, therefore, does not have a merle coat color/pattern. This dog will pass on one copy of the **m** allele 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.

This dog carries one copy of the dominant **T** allele and one copy of the recessive **t** allele which produces a natural bobtail. This dog will pass on the **T** allele to 50% of its offspring and the **t** allele to 50% 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.

Paw Print Genetics® performed the testing on the dog listed on this certificate. The genes/traits reported here were selected by the client. Normal results do not exclude inherited mutations not tested in these or other genes that may cause variation in traits, 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 any 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.