

Coat Color and Trait Certificate

Call Name:	Bear	Laboratory #:	163254
Registered Name:	FLYING S MIGHTY MECHO	Registration #:	ASDM-TX-2000781
Breed:	Miniature Australian Shepherd	Microchip #:	985141002047147
Sex:	Male	Certificate Date:	Oct. 19, 2021
DOB:	Nov. 2019		

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


Coat Color/Trait Test	Gene	Genotype	Interpretation
B Locus (Brown)	<i>TYRP1</i>	B/b or b/b	Black or brown coat, nose and foot pads (carries at least one copy of brown)
M Locus (Merle)	<i>PMEL</i>	m/m	Non merle

Interpretation:

This dog carries one or more copies of the four possible b mutations and has a B locus genotype of **B/b** or **b/b** that cannot be distinguished without additional testing of parental samples or by examining the coat, nose and footpad color of the dog. Dogs inherit two copies of the B locus, one from each parent. Because there are four different B locus mutations that can potentially be identified, as well as some limitations inherent to genetic testing methodologies currently available, a result of "B/b or b/b" means that it cannot be determined if the b mutations identified in this dog are present on the same copy of the B locus inherited from one parent or if they occur on separate copies of the B locus inherited from each of the parents. If the mutations identified are all present on the same copy of the B locus, this dog will have a **B/b** genotype and typically will have a black coat, nose and footpads. If the mutations identified are present on different copies of the B locus, this dog will have a **b/b** genotype and may have a brown coat, and will typically have a brown nose and footpads. 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. The B locus genotype for this dog can be inferred without the need for parental testing by evaluating the color of this dog's nose. If this dog's nose is brown, the B locus genotype of this dog must be **b/b** and this dog will pass one copy of **b** to 100% of its offspring. If this dog's nose is black, the final B locus genotype of this dog must be **B/b** and this dog will pass one copy of **B** to 50% of its offspring and one copy of **b** to 50% of its offspring. In either case, this dog carries at least one copy of **b** and 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 **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.

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.