



Demographic Information

Call Name	Topaz	DOB	November 22, 2022
Registered Name	Halfpint's Gemstone aka Topaz	Registration Number	
Breed	Miniature Australian Shepherd	Tattoo	
Sex	Female	Microchip	
Owner	Lana Bowers	Laboratory #	387452
		Report Date	March 8, 2023

These tests were developed and performed by Paw Print Genetics®, Spokane WA.

Explanation of Results

Normal A 'Normal' result means that your dog does not have the mutation that causes the associated genetic disease.

Carrier A 'Carrier' result indicates that your dog has inherited one copy of the mutation that has been reported to cause this genetic disease. Your dog may not be clinically affected by this mutation because two copies of the mutation are usually required to cause disease.

Carrier / At-Risk A 'Carrier / At-Risk' result indicates that your dog inherited one copy of the mutation that has been reported to cause this genetic disease. Based on the mode of genetic inheritance for this particular disease, inheriting one mutant copy of the gene may result in the disease. Dogs with one copy of the mutation may have a milder phenotype as compared to dogs with two copies of this mutation.

At-Risk / Affected An 'At-Risk / Affected' result indicates that your dog inherited one or two copies of the mutation that has been reported to cause this genetic disease. Based on the mode of genetic inheritance for this particular disease, inheriting one or two mutant copies of the gene may result in the disease.

No Result 'No Result' indicates that we were unable to obtain a genotype for your dog for this specific disease or trait and does not mean that your dog is a carrier or at-risk for this disease. There are a variety of reasons why a specific test may not provide a reportable result. Unique variations in the genetic code of some individuals may exist and cause certain regions of the genome to not perform properly with a specific test. In addition, suboptimal sampling of the dog's cheek cells could also result in poor sample performance due to inadequate cell counts, bacterial and fungal growth, or the presence of other test inhibitors. An acceptable level of tests with no results has been determined by Paw Print Genetics. Dogs with at least 90% of the test results are determined to be acceptable and reportable. If your dog has an unacceptable level of tests with no results, you will be contacted for a new sample to repeat the testing.

Please review our [testing terms and disclaimers](#) regarding your results.

WT: **wild type (normal)** M: **mutant** Y: **Y chromosome (male)**

Breed Profile

Disease Name	Geno.	Interpretation						
Collie Eye Anomaly	WT/WT	<input type="button" value="Normal (clear)"/>						
Cone Degeneration	WT/WT	<input type="button" value="Normal (clear)"/>						
Cranio-mandibular Osteopathy	WT/WT	<input type="button" value="Normal (clear)"/>						
Degenerative Myelopathy	WT/WT	<input type="button" value="Normal (Clear)"/>						
<div style="border: 1px solid #ccc; padding: 5px;"> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Degenerative Myelopathy (Bernese Mountain Dog Variant)</td> <td style="width: 20%; text-align: center;">0</td> <td style="width: 30%;"></td> </tr> <tr> <td>Degenerative Myelopathy (Common Variant)</td> <td style="text-align: center;">0</td> <td></td> </tr> </table> </div>			Degenerative Myelopathy (Bernese Mountain Dog Variant)	0		Degenerative Myelopathy (Common Variant)	0	
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Degenerative Myelopathy (Common Variant)	0							
Exercise-Induced Collapse	WT/WT	<input type="button" value="Normal (clear)"/>						
Hereditary Cataracts (Australian Shepherd Type)	WT/WT	<input type="button" value="Normal (clear)"/>						
Hyperuricosuria	WT/WT	<input type="button" value="Normal (clear)"/>						
Intervertebral Disc Disease Risk Factor and Chondrodystrophy (CDDY with IVDD)	WT/WT	<input type="button" value="Normal (clear)"/>						
Intestinal Cobalamin Malabsorption (Border Collie Type)	WT/WT	<input type="button" value="Normal (clear)"/>						
Multidrug Resistance 1	WT/WT	<input type="button" value="Normal (clear)"/>						
Multifocal Retinopathy 1	WT/WT	<input type="button" value="Normal (clear)"/>						
Neuronal Ceroid Lipofuscinosis 6	WT/WT	<input type="button" value="Normal (clear)"/>						
Neuronal Ceroid Lipofuscinosis 8 (Australian Shepherd Type)	WT/WT	<input type="button" value="Normal (clear)"/>						
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration (prcd)	WT/WT	<input type="button" value="Normal (clear)"/>						
Von Willebrand Disease I	WT/WT	<input type="button" value="Normal (clear)"/>						

WT: M: Y:

Coat Colors & Traits

Trait Name	Geno.	Interpretation
A Locus (Agouti)	a ^t /a	Tricolor, black and tan (carries bicolor/solid)
A^s Locus (Saddle Tan)	N/A ^s	Saddle tan/creeping tan (non saddle tan carrier)
B Locus (Brown)	B/b	Black coat, nose and foot pads (carries brown)

B Locus (Brown) - b ^a	0	
B Locus (Brown) - b ^c	1	
B Locus (Brown) - b ^d	0	

B Locus (Brown) - b ^s	0	
Brachycephaly	BR/BR	Likely medium to long muzzle
Chondrodysplasia (CDPA)	cd/cd	Likely typical leg length
Co Locus (Cocoa, French Bulldog Type)	CO/CO	Black coat, nose and foot pads (does not carry cocoa)
Cu Locus (Curly Hair)	Cu/Cu	Straight coat
D Locus (Dilute)	D/D	Non dilute
D Locus (Dilute) - d ¹ D Locus (Dilute) - d ²	0 0	
E Locus (Yellow/Red)	E/e	Black (carries yellow/red)
E^g Locus (Grizzle, Afghan Hound Type)	N/N	No grizzle
E^h Locus (Sable, Cocker Spaniel Type)	N/N	No sable
E^m Locus (Melanistic Mask)	E ^m /N	Melanistic mask (carrier)
H Locus (Harlequin, Great Dane Type)	h/h	No harlequin
Hr Locus (FOXI3 Hairless Gene Test, Mexican Hairless, Peruvian Hairless and Chinese Crested Type)	hr/hr	Coated
I Locus (Intensity)	I/i	Normal intensity (carrier)
IC Locus (Improper Coat/Furnishings)	IC/IC	No furnishings, improper coat
K Locus (Dominant Black)	k ^y /k ^y	Agouti expression allowed
L Locus (Long Hair/Fluffy) - Lh¹, Lh², Lh⁴	Lh/Lh	Longhaired
L Locus (Long Hair/Fluffy) - Lh ¹ L Locus (Long Hair/Fluffy) - Lh ² L Locus (Long Hair/Fluffy) - Lh ⁴	2 0 0	
M Locus (Merle)	m/M229	Single copy merle carrier
Polydactyly	PD/PD	Likely polydactylous with hind dewclaws
S Locus (White Spotting, Parti, or Piebald)	S/S	No white spotting, flash, parti, or piebald
SD Locus (Shedding)	SD/SD	High shedding
Sex Determination - ZFX	X/X	Female
T Locus (Natural Bobtail)	t/t	Normal tail

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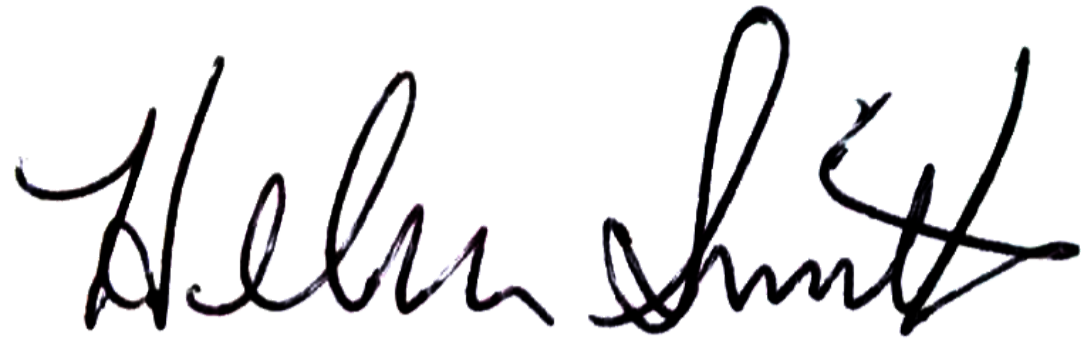
Determinants of coat colors and traits are complex. Many of these variants are known and many of the genes screened in the Canine HealthCheck interact. In addition, not all the genetic factors that contribute to a dog's coat color and traits are known. Because of the complexities in gene-gene

interactions, the coat colors and traits reported in your Canine HealthCheck results may vary from your dog's actual appearance. Individual differences in genes throughout the canine genome, not tested in this genetic screen, may also affect the final coat color or traits seen in your dog.

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Medical Director

Canine HealthCheck® is a product of Paw Print Genetics®. This test was developed and its performance determined by Paw Print Genetics. This laboratory has established and verified the test's accuracy and precision with >99% sensitivity and specificity. The results included in this report relate only to the items tested using the sample provided. The presence of mosaicism may not be detected by this test. Non-paternity may lead to unexpected results. This is not a diagnostic test. This is not a breed identification test. Because all tests are DNA-based, rare genomic variations may interfere with the performance of some individual tests producing false results. If you think any results are in error, please contact the laboratory for further evaluation.