

## Dog Information

**Killian (Killian)**  
NAME

**Female**  
SEX

**Australian Shepherd Group**  
Breed with variety:  
**100% Miniature/MAS-type Australian Shepherd**  
BREED ANCESTRY

**February 10th, 2021**  
DATE OF BIRTH  
**n/a**  
MICROCHIP

**American Kennel Club (AKC)**  
REGISTRATION

**Laurel McComas**  
OWNER NAME

**Canine Genetic Health Screen**  
TEST

**March 24th, 2023**  
TEST DATE

## BREED HEALTH TESTS

To ensure completeness, this report includes all carrier and at risk results for this dog.

DISEASE	GENE	GENOTYPE	RESULT	TESTING RECOMMENDED BY
Canine Multifocal Retinopathy, cmr1	BEST1/VMD2 (Exon 2)	CC	Clear	
Collie Eye Anomaly, Choroidal Hypoplasia, CEA	NHEJ1 (Intron 4)	NN	Clear	
Cranio-mandibular Osteopathy, CMO	SLC37A2 (Exon 15)	CC	Clear	
Day Blindness, Cone Degeneration, Achromatopsia	CNGB3	NN	Clear	
Degenerative Myelopathy, DM	SOD1(A)	GG	Clear	
Hereditary Cataracts, Early-Onset Cataracts, Juvenile Cataracts	HSF4	NN	Clear	
Hyperuricosuria and Hyperuricemia or Urolithiasis, HUU	SLC2A9 (Exon 5)	GG	Clear	
MDR1 Drug Sensitivity	ABCB1	NN	Clear	
Neuronal Ceroid Lipofuscinosis 6, NCL 6	CLN6 (Exon 7)	TT	Clear	
Neuronal Ceroid Lipofuscinosis 8, NCL 8	CLN8	GG	Clear	
Progressive Retinal Atrophy, prcd	PRCD Exon 1	GA	1 Variant	
Junctional Epidermolysis Bullosa	LAMB3 Exon 11	TT	Clear	
Dilated Cardiomyopathy, DCM1	PDK4	ND	1 Variant	

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## INBREEDING AND DIVERSITY

	RESULT	GENETIC RESULT
Genetic Diversity		
Coefficient Of Inbreeding		8%
MHC Class II - DLA DRB1		High Diversity
MHC Class II - DLA DQA1 and DQB1		High Diversity

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## TRAIT TESTS (1/3)

Coat Color	RESULT	GENETIC RESULT
E Locus (MC1R)	Can have a melanistic mask	E <sup>m</sup> E <sup>m</sup>
K Locus (CBD103)	More likely to have a patterned haircoat	k <sup>y</sup> k <sup>y</sup>
Intensity Loci LINKAGE	Any light hair likely yellow or tan	Intermediate Red Pigmentation
A Locus (ASIP)	Black/Brown and tan coat color pattern	a <sup>+</sup> a
D Locus (MLPH)	Dark areas of hair and skin are not lightened	DD
Cocoa (HPS3)	No co alleles, not expressed	NN
B Locus (TYRP1)	Brown hair and skin	bb
Saddle Tan (RALY)	Not saddle tan patterned	ll
S Locus (MITF)	Likely solid colored, but may have small amounts of white	Ssp
M Locus (PMEL)	No merle alleles	mm
R Locus (USH2A) LINKAGE	Likely no impact on coat pattern	rr

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## TRAIT TESTS (2/3)

Coat Color	RESULT	GENETIC RESULT
H Locus (Harlequin)	No harlequin alleles	hh
Other Coat Traits	RESULT	GENETIC RESULT
Furnishings (RSP02) LINKAGE	Likely unfurnished (no mustache, beard, and/or eyebrows)	II
Coat Length (FGF5)	Likely long coat	TT
Shedding (MC5R)	Likely heavy/seasonal shedding	CC
Hairlessness (FOXI3) LINKAGE	Very unlikely to be hairless	NN
Hairlessness (SGK3)	Very unlikely to be hairless	NN
Oculocutaneous Albinism Type 2 (SLC45A2) LINKAGE	Likely not albino	NN
Coat Texture (KRT71)	Likely straight coat	CC
Other Body Features	RESULT	GENETIC RESULT
Muzzle Length (BMP3)	Likely medium or long muzzle	CC
Tail Length (T)	Likely normal-length tail	CC
Hind Dewclaws (LMBR1)	Unlikely to have hind dew claws	CC

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## TRAIT TESTS (3/3)

Other Body Features	RESULT	GENETIC RESULT
Blue Eye Color (ALX4) LINKAGE	Likely to have blue eyes or partial blue eyes	NDup
Back Muscling & Bulk, Large Breed (ACSL4)	Likely normal muscling	CC
Body Size	RESULT	GENETIC RESULT
Body Size (IGF1)	Larger	NN
Body Size (IGFR1)	Larger	GG
Body Size (STC2)	Intermediate	TA
Body Size (GHR - E191K)	Intermediate	GA
Body Size (GHR - P177L)	Larger	CC
Performance	RESULT	GENETIC RESULT
Altitude Adaptation (EPAS1)	Normal altitude tolerance	GG
Appetite (POMC) LINKAGE	Normal food motivation	NN