DNA Test Report

Dog Information

Cascade (Collie)
NAME

Male
SEX

Border Collie
GENETIC BREED

November 1st, 2023
DATE OF BIRTH

n/a
REGISTRATION

n/a
MICROCHIP

Amy Hoffman
OWNER NAME

Canine Genetic Health Screen
TEST

April 16th, 2024
TEST DATE

BREED HEALTH TESTS

DISEASE	GENE	GENOTYPE	RESULT	TESTING RECOMMENDED BY
Collie Eye Anomaly, Choroidal Hypoplasia, CEA	NHEJ1 (Intron 4)	NN	Clear	
Degenerative Myelopathy, DM	SOD1A	GG	Clear	
Imerslund-Grasbeck Syndrome, Selective Cobalamin Malabsorption	CUBN (Exon 53)	NN	Clear	
MDR1 Drug Sensitivity	ABCB1	NN	Clear	
Myotonia Congenita	CLCN1 (Exon 23)	NN	Clear	
Neuronal Ceroid Lipofuscinosis 5, NCL 5	CLN5 (Exon 4)	CC	Clear	
Primary Lens Luxation	ADAMTS17	GG	Clear	
Trapped Neutrophil Syndrome, TNS	VPS13B Exon 19	NN	Clear	
Goniodysgenesis and Glaucoma, Pectinate Ligament Dysplasia, PLD	OLFML3	GG	Clear	
Raine Syndrome, Canine Dental Hypomineralization Syndrome	FAM20C	GG	Clear	
Sensory Neuropathy	FAM134B	NN	Clear	

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INBREEDING AND DIVERSITY

Genetic Diversity	RESULT	GENETIC RESULT
Coefficient Of Inbreeding		**17%**
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^mE
K Locus (CBD103)	More likely to have a patterned haircoat	k^yk^y
Intensity Loci	Any light hair likely yellow or tan	Intermediate Red Pigmentation
A Locus (ASIP)	Agouti (Wolf Sable) coat color pattern	a^wa^t
D Locus (MLPH)	Dark areas of hair and skin are not lightened	DD
Cocoa (HPS3)	No co alleles, not expressed	NN
B Locus (TYRP1)	Black or gray hair and skin	Bb
Saddle Tan (RALY)	Not expressed	NN
S Locus (MITF)	Likely to have little to no white in coat	SS
M Locus (PMEL)	No merle alleles	mm
R Locus (USH2A)	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
Panda White Spotting	Not expected to display Panda pattern	NN

Other Coat Traits	RESULT	GENETIC RESULT
Furnishings (RSPO2)	Likely unfurnished (no mustache, beard, and/or eyebrows)	II
Coat Length (FGF5)	Likely short or mid-length coat	ShLh
Shedding (MC5R)	Likely heavy/seasonal shedding	CC
Coat Texture (KRT71)	Likely straight coat	CC
Hairlessness (FOXI3)	Very unlikely to be hairless	NN
Hairlessness (SGK3)	Very unlikely to be hairless	NN
Oculocutaneous Albinism Type 2 (SLC45A2)	Likely not albino	NN

Other Body Features	RESULT	GENETIC RESULT
Muzzle Length (BMP3)	Likely medium or long muzzle	CC
Tail Length (T)	Likely normal-length tail	CC

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TRAIT TESTS (3/3)

Other Body Features	RESULT	GENETIC RESULT
Hind Dewclaws (LMBR1)	Unlikely to have hind dew claws	CC
Chondrodysplasia (Chr. 18 FGF4 Retrogene)	Not indicative of chondrodysplasia (normal leg length)	NN
Blue Eye Color (ALX4)	Less likely to have blue eyes	NN
Back Muscling & Bulk, Large Breed (ACSL4)	Likely normal muscling	CC

Body Size	RESULT	GENETIC RESULT
Body Size (IGF1)	Intermediate	NI
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)	Normal food motivation	NN