CEDAR

Traits

DNA Traits Report by Embark

embarkvet.com

Test Date: March 14th, 2025

Traits

Coat Color

A number of genes are known to affect coat color in dogs. They all interact and in some cases other, often unknown, genetic effects may also influence color and pattern.

We cannot yet test for some color patterns, for example, spotting and ticking.

E Locus (MC1R)

Can have a melanistic mask (Em e or Ee)

K Locus (CBD103)

More likely to have a patterned hair coat (kyky)

Intensity Loci

Any light hair likely yellow or tan (Intermediate Red Pigmentation)

A Locus (ASIP)

Fawn Sable coat color pattern (aya t)

D Locus (MLPH)

Dark areas of hair and skin are not lightened (DD)

Cocoa (HPS3)

NN

B Locus (TYRP1)

Black or grey or brown hair and skin (Bb or bb)

Saddle Tan (RALY)

Not expressed (NI)

S Locus (MITF)

Likely flash, parti, piebald, or extreme white (spsp)

M Locus (PMEL)

One merle allele; may express merle (M*m)

R Locus (USH2A)

Likely no impact on coat pattern (rr)

H Locus (Harlequin)

No harlequin alleles (hh)

Panda White Spotting

Not expected to display Panda pattern (NN)

Other Coat Traits

Furnishings, shedding, and curls are all genetic. Several genes are at work here, and they all interact. In fact, the combination of these genes explains the coat traits of 90 percent of AKC registered dog breeds.

Furnishings (RSPO2)

Likely furnished (mustache, beard, and/or eyebrows) (FF)

Coat Length (FGF5)

Likely long coat (LhLh)

Shedding (MC5R)

Likely light shedding (TT)

Coat Texture (KRT71)

Likely curly coat (TT)

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

We are discovering the genetic basis for an increasing number of other body features, including hind dew claws and the shape of your dog's head. Take our surveys to help us make new discoveries.

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)

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

Body size is a complex trait that is affected by both genetic and environmental variation. Our genetic analysis includes genes that, together, explain over 85 percent of the variation in dog body size. Below are your dog's results for some of the most important size-related genes.

Predicted Adult Weight

11 lbs

Body Size (IGF1)

Smaller (II)

Body Size (IGFR1)

Intermediate (GA)

Body Size (STC2)

Intermediate (TA)

Body Size (GHR - E191K)

Smaller (AA)

Body Size (GHR - P177L)

Larger (CC)

Performance

Physical performance traits are interesting for all dogs, especially those that want to perform in more strenuous environments. These traits also shed light on the history of dogs and what they have been bred for. For example, the high altitude mutation we test for causes similar changes in oxygen usage as a mutation found in people from the Himalayas!

Altitude Adaptation (EPAS1)

Normal altitude tolerance (GG)

Appetite (POMC)

Normal food motivation (NN)

Genetic Diversity

Coefficient Of Inbreeding

5%

MHC Class II - DLA DRB1

No Diversity

MHC Class II - DLA DQA1 and DQB1

Low Diversity