

Explore the genetics behind Ranger's appearance and size.



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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.

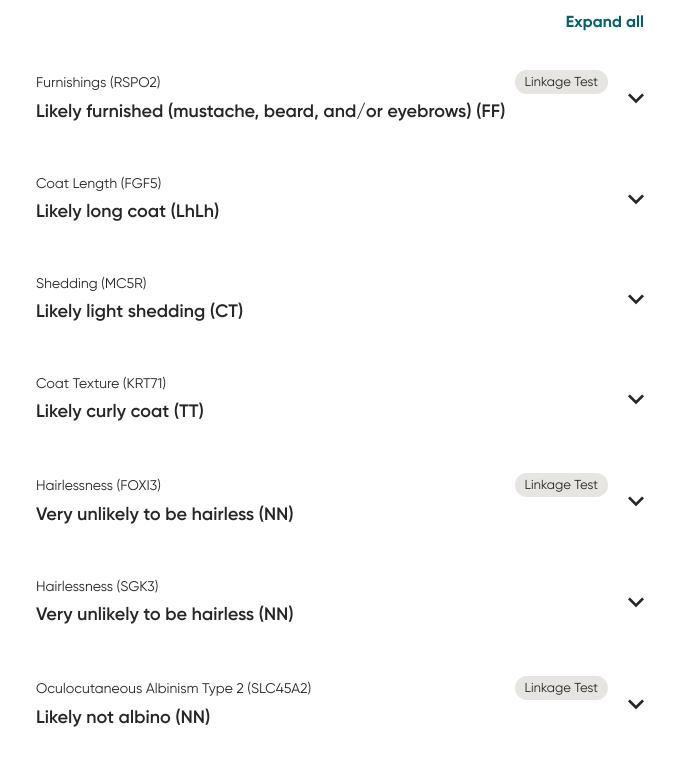
E Locus (MC1R) No dark mask or grizzle (Ee) K Locus (CBD103) More likely to have a patterned haircoat (k^yk^y) Intensity Loci Any light hair likely apricot or red (Intense Red Pigmentation)

A Locus (ASIP)

| Black/Brown and tan coat color pattern (a ^t a ^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 saddle tan patterned (II) | ~ |
| S Locus (MITF) Likely solid colored, but may have small amounts of white (Ssp) | ~ |
| 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) | ~ |

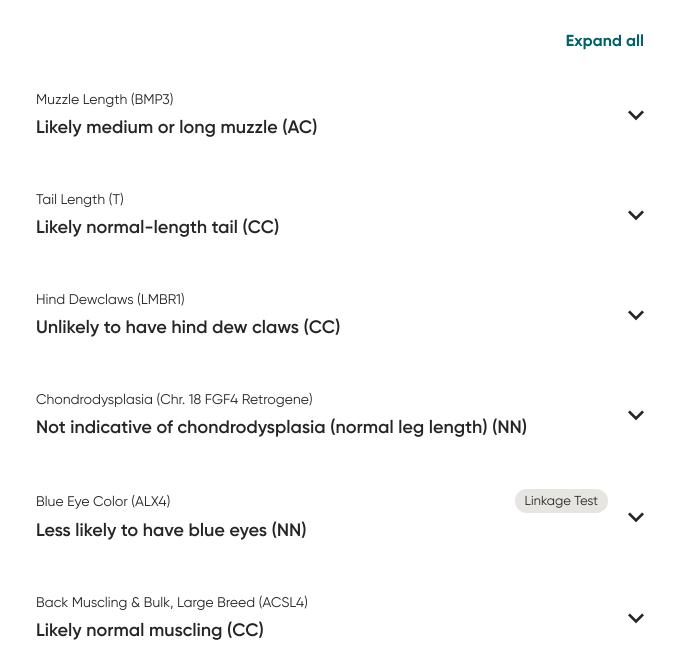
Other Coat Traits

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.



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.



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 38 lbs | ~ |
|---|----------|
| Body Size (IGF1) Intermediate (NI) | ~ |
| Body Size (IGFR1) Intermediate (GA) | ~ |
| Body Size (STC2) Intermediate (TA) | ~ |
| Body Size (GHR - E191K) Intermediate (GA) | ~ |
| 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!

Expand all

Expand all

Altitude Adaptation (EPAS1)

Normal altitude tolerance (GG)

Linkage Test

Normal food motivation (NN)

Appetite (POMC)