Pair Predictor

Choose a sire and dam from your breeding program, and we'll predict the litter's genetic health conditions, expected COI, and coat colors.

Sire: Mako at Lykosia

Dam: "Jenna" Lykosia Reckles

CALCULATE

Genetic health conditions

18 results

We've compared the genotypes for Mako at Lykosia and "Jenna" Lykosia Reckless Abandon to identify potential health risks for their offspring. The predictions are below. Select any condition to read about it in detail.

Clear (18 results with the probability of all clear puppies)

- Achromatopsia
  Identified in German Shepherd Dogs
- Alaskan Malamute Polyneuropathy, AMPN
  Identified in Alaskan Malamutes
- Canine Leukocyte Adhesion Deficiency Type III, CLAD III
  Identified in German Shepherd Dogs
- Day Blindness, Cone Degeneration, Achromatopsia
  Identified in Alaskan Malamutes and Siberian Huskies
- Degenerative Myelopathy, DM
  Identified in German Shepherd Dogs and Siberian Huskies

Factor VII Deficiency
Identified in Alaskan Malamutes

Factor VIII Deficiency, Hemophilia A
Identified in German Shepherd Dogs

Factor VIII Deficiency, Hemophilia A
Identified in German Shepherd Dogs

GM1 Gangliosidosis
Identified in Siberian Huskies

Hyperuricosuria and Hyperuricemia or Urolithiasis, HUU
Identified in German Shepherd Dogs

Ichthyosis
Identified in German Shepherd Dogs

MDR1 Drug Sensitivity
Identified in German Shepherd Dogs

Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII
Identified in German Shepherd Dogs

Platelet Factor X Receptor Deficiency, Scott Syndrome
Identified in German Shepherd Dogs

Primary Ciliary Dyskinesia, PCD
Identified in Alaskan Malamutes

Renal Cystadenocarcinoma and Nodular Dermatofibrosis, RCND
Identified in German Shepherd Dogs

X-linked Ectodermal Dysplasia, Anhidrotic Ectodermal Dysplasia, XHED
Identified in German Shepherd Dogs

X-Linked Progressive Retinal Atrophy 1, XL-PRA1
Identified in Siberian Huskies

No predictions available; not breed relevant

Congenital Dyserythropoietic Anemia and Polymyopathy

Congenital Muscular Dystrophy

Copper Toxicosis (Accumulating)

Darier Disease

Ehlers-Danlos Syndrome (EDS)

Glycogen Storage Disease Type IA, Von Gierke Disease, GSD IA

Hereditary Ataxia

Hereditary Cataracts, Early-Onset Cataracts, Juvenile Cataracts

Hereditary Cerebellar Ataxia

Ichthyosis, ICH2

Laryngeal Paralysis and Polyneuropathy

Medium-Chain Acyl-CoA Dehydrogenase Deficiency, MCADD

Muscular Dystrophy-Dystroglycanopathy

Myotonia Congenita

Primary Ciliary Dyskinesia, PCD

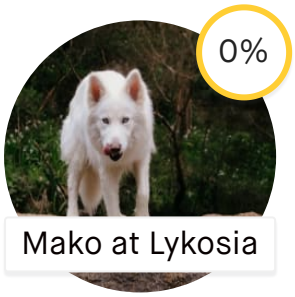
Progressive Retinal Atrophy 5, PRA5

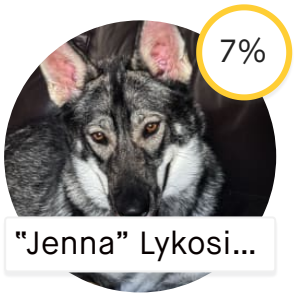
Expected litter COI (eCOI)

eCOI: 7% · Average breed COI: --%

Genetic coefficient of inbreeding (COI) measures the proportion of a dog's genome in which the dam's and sire's genes are identical by descent. All else being equal, a lower COI has been correlated to improved health and a longer lifespan (Bannasch et al 2021, Yordy et al 2020).

The expected coefficient of inbreeding (eCOI) for this pair's offspring is 7%.





How to apply genetic eCOI

Compare the eCOI to the COI of the sire and dam to identify if the degree of inbreeding present in your lines will increase or decrease based upon the proposed mating.

Use Pair Predictor to explore how eCOI may change when matching different sires and/or dams. Embark recommends testing the puppies in the litter since the actual COI will vary per individual.

The impact of inbreeding should be one factor when choosing which dogs to use in a breeding program, in addition to genetic health risks, conformation, temperament, and other selection criteria.

Watch: Inbreeding explained →

Coat Predictions

2 results

We've compared the genotypes for "Jenna" Lykosia Reckless Abandon and Mako at Lykosia to identify the predicted coat color of their offspring.

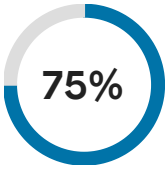
Locus	Dam	Sire
E	EE	ee
K	$k^y k^y$	$k^y k^y$
A	$a^w a$	$a^w a^t$
B	BB	Bb
D	DD	DD

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 all color patterns, like some types of spotting and ticking, and do not currently account for genetic differences that may impact the coat of a particular breed differently than that of the average dog in our litter predictions.

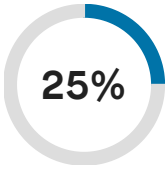
These results are calculated probabilities meant to serve as one of many factors in your breeding decisions.

E Locus: 100% Ee
K Locus: 100% $k^y k^y$
A Locus: 25% $a^w a^w$, 25% $a^w a$, 25% $a^w a^t$, 25% $a^t a$
B Locus: 50% BB, 50% Bb
D Locus: 100% DD

Based on the above information, we predict the following possible outcome:*



75% of the litter is predicted to have a black agouti coat with black pigment.



25% of the litter is predicted to have a black tan point coat with black pigment.

***All predictions are rounded to the nearest whole number and may not add up to 100%.**

Coat color modifiers, like merle and roan, are not included. Learn more about how you can manually predict these traits: How can I predict the coat traits of my future puppies? or contact us if you need assistance.

For more details on Mako at Lykosia's and "Jenna" Lykosia Reckless Abandon's coats, please refer to the trait results in their individual profiles.

Was this information helpful? Yes No

Educational resources