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: Jax

Dam: "Zuri" Lykosia Eden

CALCULATE

Genetic health conditions

17 results

We've compared the genotypes for Jax and "Zuri" Lykosia Eden to identify potential health risks for their offspring. The predictions are below. Select any condition to read about it in detail.

Clear (17 results with the probability of all clear puppies)

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

Factor VII Deficiency
Identified in Alaskan Malamutes

Factor VIII Deficiency, Hemophilia A
Identified in White Shepherds

Factor VIII Deficiency, Hemophilia A
Identified in White Shepherds

GM1 Gangliosidosis
Identified in Siberian Huskies

Hyperuricosuria and Hyperuricemia or Urolithiasis, HUU
Identified in White Shepherds

MDR1 Drug Sensitivity
Identified in White Shepherds

Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII
Identified in White Shepherds

Platelet Factor X Receptor Deficiency, Scott Syndrome
Identified in White Shepherds

Primary Ciliary Dyskinesia, PCD
Identified in Alaskan Malamutes

Renal Cystadenocarcinoma and Nodular Dermatofibrosis, RCND
Identified in White Shepherds

X-linked Ectodermal Dysplasia, Anhidrotic Ectodermal Dysplasia, XHED
Identified in White Shepherds

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: 6% · 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 6%.

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

1 result

We've compared the genotypes for "Zuri" Lykosia Eden and Jax to identify the predicted coat color of their offspring.

Locus	Dam	Sire
E	Ee	EE

Locus	Dam	Sire
K	$k^y k^y$	$k^y k^y$
A	$a^w a$	$a^w a^w$
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: 50% EE, 50% Ee
K Locus: 100% $k^y k^y$
A Locus: 50% $a^w a^w$, 50% $a^w a$
B Locus: 50% BB, 50% Bb
D Locus: 100% DD

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

100% of the litter is predicted to have a black agouti 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 Jax's and "Zuri" Lykosia Eden's coats, please refer to the trait results in their individual profiles.

Was this information helpful? Yes No

Educational resources