

OWNER'S NAME: David Vesely

DOG'S NAME: ELOISA WHIPOORWILL

TEST DATE: May 9th, 2018

This certifies the authenticity of
ELOISA WHIPOORWILL's canine
genetic background as determined
following careful analysis of more than
200,000 genetic markers.

BELGIAN MALINOIS / BELGIAN SHEEPDOG

Welcome to the
Embarc family!

WOLFINESS 1.1% **MEDIUM**

MATERNAL HAPLOTYPE **A11a**



51.8% Belgian Malinois



Adam Boyko, Ph.D.
CHIEF SCIENCE OFFICER



Ryan Boyko
CHIEF EXECUTIVE OFFICER



ELOISA WHIPOORWILL



DNA Test Report

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embk.me/whip

BREED MIX



GENETIC STATS

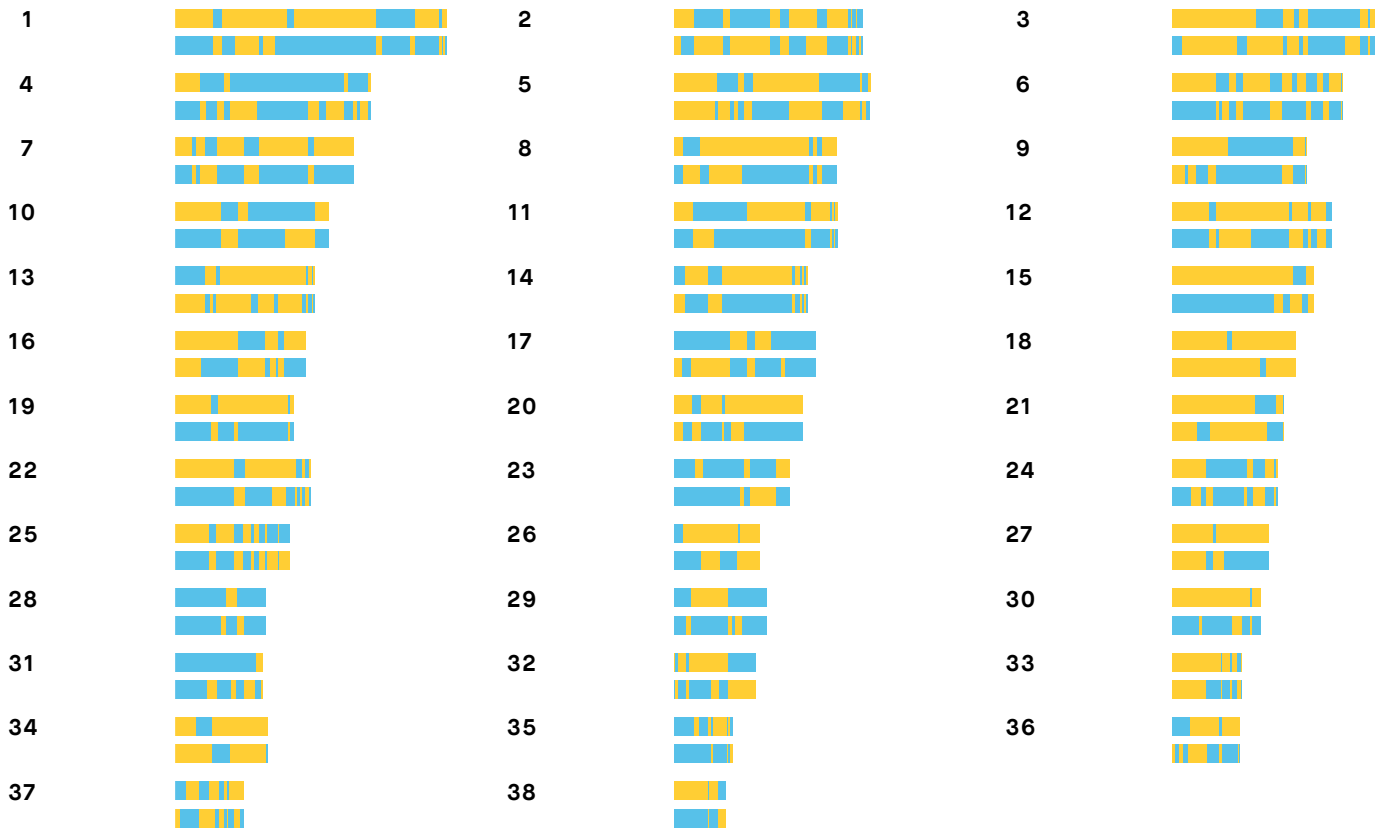
Wolfiness: 1.1 % **MEDIUM**
 Predicted adult weight: **39 lbs**
 Genetic age: **17 human years**

TEST DETAILS

Kit number: EM-5820486
 Swab number: 31001701021635

BREED MIX BY CHROMOSOME

Our advanced test identifies from where ELOISA WHIPOORWILL inherited every part of the chromosome pairs in her genome.





ELOISA WHIPOORWILL

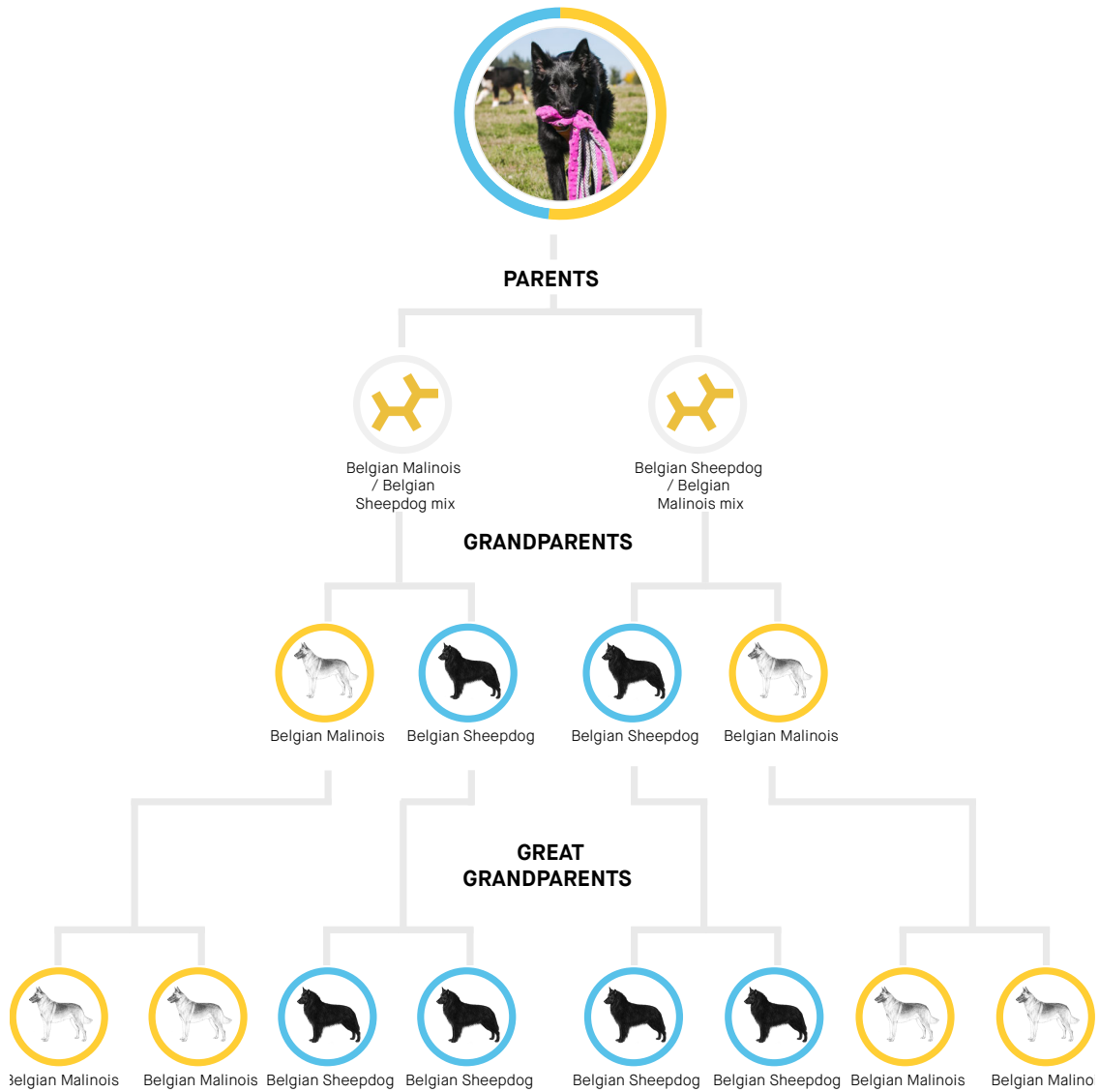


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FAMILY TREE

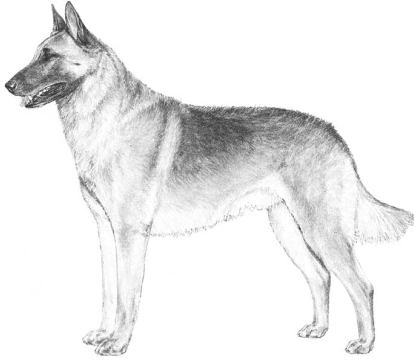


Our algorithms predict this is the most likely family tree to explain ELOISA WHIPOORWILL's breed mix, but this family tree may not be the only possible one.





BELGIAN MALINOIS



The Belgian Malinois is the ultimate working dog. They were developed during the late 1800's in Belgium with the intent of creating a highly intelligent dog with a very strong work ethic. The breed has made a statement through its work in the police force and the military. Malinois were Belgium's first police dogs. American servicemen brought these dogs back to the United States after World War I with the desire to incorporate them into the military. This is a very smart breed that requires a strong owner in order to tackle their intelligence. Malinois have boundless energy, but can thrive anywhere so long as they are thoroughly exercised on a daily basis. Their double coat, unfortunately, can result in quite a bit of shedding. These are people oriented dogs that want to be included in all family happenings.

Fun Fact The Belgian Malinois gets its name from the Belgian city of Maline, from where the breed originated.

RELATED BREEDS



Belgian Tervuren
Sibling breed



Belgian Sheepdog
Sibling breed



German Shepherd Dog
Cousin breed



Dutch Shepherd
Cousin breed



BELGIAN SHEEPDOG



Belgian Sheepdogs are very intelligent and alert. They also have strong herding and protection instincts. Early, consistent training is critical! Although they are good-size dogs, they are very people-oriented and want to be included in family activities. Belgian Sheepdogs are play-oriented and sensitive. Keep training sessions fun, consistent, and positive. Because of their intelligence, high energy levels, and other characteristics, Belgian Sheepdogs are not recommended for inexperienced dog owners. Shyness can be a problem in this breed. Choose the middle-of-the-road puppy, not the one beating up his litter mates or the one hiding in the corner. Belgian Sheepdogs require at least an hour of exercise per day. If you don't provide them with exercise and mental stimulation in the form of training or play, they'll find their own entertainment, and chances are it will be expensive to repair. Belgian Sheepdogs can get along well with other dogs and cats if they're raised with them, but they have a chase instinct and will go after animals that run from them. Belgian Sheepdogs shed year-round and require 15 to 20 minutes of brushing weekly.

Alternative Names

Groenendael

Fun Fact During WWI, The Belgian Sheepdog distinguished themselves on the battlefields, serving as message carriers, ambulance dogs, and even pulling machine guns.

RELATED BREEDS



Belgian Tervuren
Sibling breed



Belgian Malinois
Cousin breed



MATERNAL LINE



Through ELOISA WHIPOORWILL's mitochondrial DNA we can trace her mother's ancestry back to where dogs and people first became friends. This map helps you visualize the routes that her ancestors took to your home. Their story is described below the map.

HAPLOGROUP: A1d

This female lineage can be traced back about 15,000 years to some of the original Central Asian wolves that were domesticated into modern dogs. The early females that represent this lineage were likely taken into Eurasia, where they spread rapidly. As a result, many modern breed and village dogs from the Americas, Africa, through Asia and down into Oceania belong to this group! This widespread lineage is not limited to a select few breeds, but the majority of Rottweilers, Afghan Hounds and Wirehaired Pointing Griffons belong to it. It is also the most common female lineage among Papillons, Samoyeds and Jack Russell Terriers. Considering its occurrence in breeds as diverse as Afghan Hounds and Samoyeds, some of this is likely ancient variation. But because of its presence in many modern European breeds, much of its diversity likely can be attributed to much more recent breeding.

HAPLOTYPE: A11a

Part of the large A1d haplogroup, this common haplotype occurs in village dogs all over the world. Among the 23 breeds we have sampled it in, the most common occurrences include Rottweilers, English Setters, English Springer Spaniels, and wirehaired pointing griffons.



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TRAITS

Coat Color

E Locus (Mask, Grizzle, Recessive Red)	E^mE^m
K Locus (Dominant Black)	K^Bk^y
A Locus (Agouti, Sable)	a^Ya
D Locus (Dilute, Blue, Fawn)	DD
B Locus (Brown, Chocolate, Liver, Red)	BB

Other Coat Traits

Furnishings / Improper Coat (RSPO2)	II
Long Haircoat (FGF5)	TT
Shedding (MC5R)	CC
Curly Coat (KRT71)	CC

Body Size

Body Size - IGF1	NN
Body Size - IGF1R	GG
Body Size - STC2	TT
Body Size - GHR (E195K)	GG
Body Size - GHR (P177L)	CC

Other Body Features

Brachycephaly (BMP3)	CC
Natural Bobtail (T)	CC
Hind Dewclaws (LMBR1)	CC

Performance

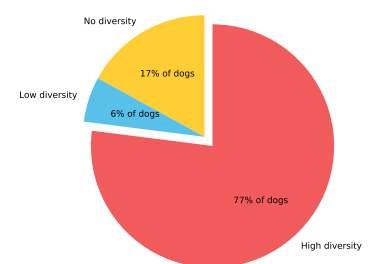
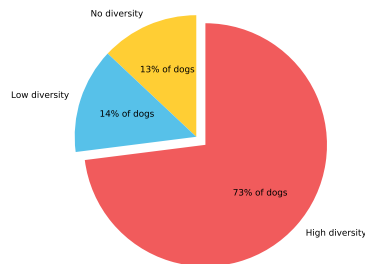
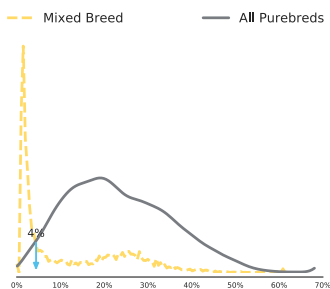
Altitude Adaptation (EPAS1)	GG
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Genetic Diversity

Inbreeding Coefficient **4%**

MHC Class II - DLA DRB1
High Diversity

MHC Class II - DLA DQA1 and DQB1
High Diversity





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CLINICAL TRAITS

These clinical genetic traits can inform clinical decisions and diagnoses. These traits do not predict a disease state or increased risk for disease. We currently assess one clinical trait: Alanine Aminotransferase Activity.

Alanine Aminotransferase Activity result: Low Normal

ELOISA WHIPOORWILL has one copy of a mutation associated with reduced ALT activity as measured on veterinary blood chemistry panels. Please inform your veterinarian that ELOISA WHIPOORWILL has this genotype, as ALT is often used as an indicator of liver health and ELOISA WHIPOORWILL is likely to have a lower than average resting ALT activity. As such, an increase in ELOISA WHIPOORWILL's ALT activity could be evidence of liver damage, even if it is within normal limits by standard ALT reference ranges.

More information on Alanine Aminotransferase Activity:

Known to be highly expressed in liver cells, activity levels of alanine aminotransferase, or ALT, is a common value on most blood chemistry panels and is known to be a sensitive measure of liver health. Dogs with two ancestral G alleles show "normal" activity. Dogs that have one or two copies of the derived A allele may have lower resting levels of ALT activity, known as "low normal". If your dog's result is "low normal" then when a blood chemistry panel is being interpreted the values that you and your veterinarian consider "normal" may need to be adjusted. Please note that neither a "normal" nor a "low normal" result for this predicts a disease state or increased risk for liver disease. Moreover, this mutation does not associate with increased levels of ALT: If your dog has high ALT levels, please consult your veterinarian.



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HEALTH

Good news! ELOISA WHIPOORWILL did not test positive for any of the genetic diseases that Embark screens for.

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AT RISK

0

CARRIER



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OTHER CONDITIONS

Good news! ELOISA WHIPOORWILL tested clear for 2 genetic conditions that are common in her breed mix.

- Mucopolysaccharidosis Type VII, Sly Syndrome (GUSB Exon 3)
- Degenerative Myelopathy (SOD1A)



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FULL TEST PANEL

To help ensure healthy breeds, every test includes analysis of our full panel of over 160 genetic diseases.

ELOISA WHIPOORWILL is also clear of 163 other genetic diseases that Embark tests for.