Breed Certificate

from

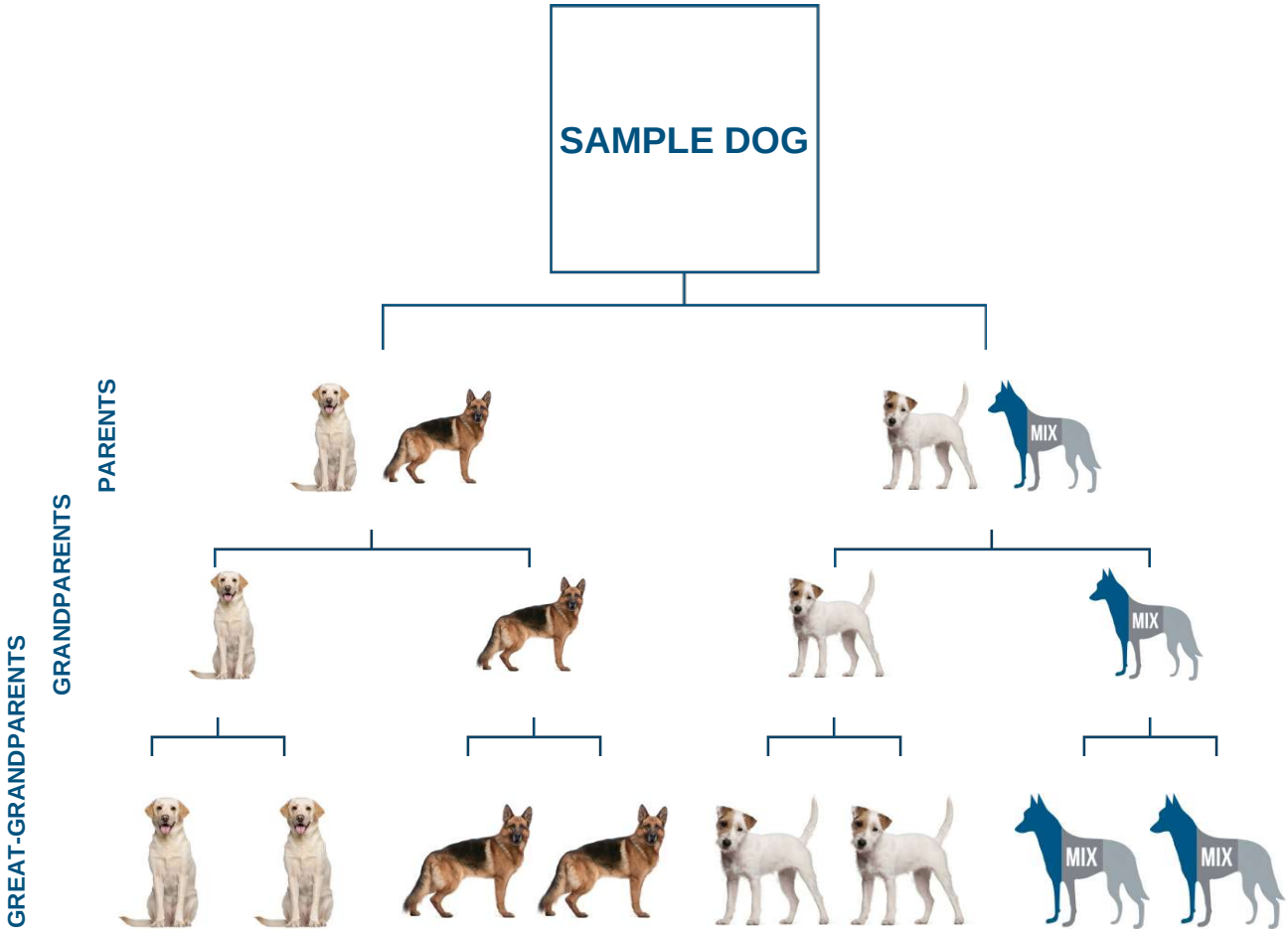
sample dog

Breed Identification Results:

sample dog is a

Labrador Retriever, German Shepherd Dog, Parson Russell Terrier and Mix

The computer algorithm performed over seven million calculations using 11 different models (from a single breed to complex combinations of breeds) to predict the most likely combination of pure and mixed breed dogs in the last 3 ancestral generations that best fit the DNA marker pattern observed in sample dog. The ancestry chart depicting the best statistical result of this analysis is shown in the picture below.



Percentage breed shares

BREED DISTRIBUTION IN PERCENT

What exactly does the result mean and how much of the different breeds are in the ancestors of your dog? The genetic data obtained from your dog's DNA have been analyzed and evaluated by a special computer program. With this algorithm several million calculations were performed. The following breed distribution was found in your darling:

LABRADOR RETRIEVER: 25%

GERMAN SHEPHERD DOG: 25%

PARSON RUSSELL TERRIER: 25%

MIX: 25%

WHAT DOES THIS RESULT MEAN?

Parents:

One parent of sample dog is a mix of the breeds: Labrador Retriever and German Shepherd Dog. The second parent is also a mix of the following breeds: Parson Russell Terrier and Mix. If there is no information on the breeds of at least one parent, the maternal or paternal line can't be determined. The parent's breeds contribute about 50% to the genome of sample dog. The physical characteristics and behaviors of the parents are very likely to be reflected in your dog.

Grandparents:

In the first couple of the grandparents the following breeds were identified: Labrador Retriever and German Shepherd Dog. In the second couple of the grandparents the following breeds were identified: Parson Russell Terrier and Mix. The grandparent's breeds contribute about 25% to the genome of sample dog. Some of the physical characteristics and behaviors of the grandparents can likely be reflected in your dog.

Great-grandparents:

The great-grandparents of sample dog are purebred Labrador Retriever, German Shepherd Dog, Parson Russell Terrier and Mix. The great-grandparent's breeds contribute about 12,5% to the genome of sample dog. It is highly unlikely that physical characteristics and behaviors of the great-grandparents are reflected in your dog.

PREDICTED ADULT WEIGHT

Based on the markers from genetic analysis and the breeds found in sample dog’s ancestry, the likely adult weight of sample dog was calculated. The weight profile represents the unique mix of the different breeds identified.

- If intact, the predicted weight is between 25 - 30 kg
- If neutered, the predicted weight is between 28 - 33 kg

There are many factors influencing a dog’s adult weight, including sex and neuter status. Both factors were used to calculate the predicted body weight of your dog. An additional influence on body weight has a proper diet and sufficient exercise. Please keep in mind that overweight is not only a serious human problem but can also affect your dog. Overweight should be taken seriously!

POTENTIAL BREEDS IN THE MIXED BREED PORTION

Within the last 3 generations a portion of sample dog‘s ancestry was predicted as mixed breed portion. It is difficult to identify strong breed signatures in this portion for what reason your dog's DNA was used to identify the 5 most likely breeds with the strongest statistical likelihood. These breeds are shown below. The breeds are ranked in order of strength with the most likely at the top of the list. One or more of these breeds may have contributed to the genetic makeup of your sample dog‘s ancestors. Please keep in mind that it is very unlikely that all these breeds are actually represented in your sample dog‘s ancestry. There is also the possibility that there are one or more breeds, which can currently be not detected because they are not present in the database.

Golden Retriever

Detection Threshold

Flat-Coated Retriever

Doberman Pinscher

German Pinscher

Standard Poodle

EXAMPLE-DOG KIRA:
HOW GENETIC TRAITS CAN BE INHERITED

In your report you got a list of individual breeds found in your dog. Different breeds can contribute to a mixed breed dog's appearance in different and fascinating ways. These combinations make your dog unique. Your dog may look and behave very similar to one of the identified breeds, but much more often the look and personality are an interesting mixture of the different breeds. Below you can find our example-dog Kira. Based on her experience we would like to show you, how interaction of different breeds can result in different physical characteristics.

Floppy-Ears
Floppy ears are usually inherited recessively and erected ears are dominant. In Kira's ancestors, the Labrador Retriever and the Parson Russell Terrier had floppy ears, so they were passed on to Kira.

Black saddle
The black saddle is a typical characteristic of the German Shepherd Dog. This gene is inherited dominantly and for this reason the trait is also found in Kira.

Short hair
The gene for short hair is dominant over the gene for long hair. Since all three breeds are short-haired in Kira's ancestors, Kira also has short hair.

Black pigment
The black coloring of the nose, the rim of the eyes, the lips and the foot pads was inherited from all three ancestors by a gene variant responsible for the black color.

Dominant = 1 gene copy needed for showing the trait (one from the mother or the father)
Recessive = 2 gene copies needed for showing the trait (one from the mother and the father)

THE FOLLOWING BREEDS WERE FOUND IN KIRA:

HOW THE TEST WORKS

At the very beginning of your dog's breed determination, DNA was isolated from the cells and analyzed using more than 1800 genetic markers. Each breed has its own genetic make-up and marker distribution and this fact can be used to determine which breeds are represented in your dog. This is done by a computer or to be more specific by a special algorithm designed to consider all the possible pedigree trees in the last three generations. The considered trees include simple pedigrees with just one breed as in purebred dogs, two different breeds like in designer dog, all the way up to highly complex trees with eight different great-grandparent breeds included. The computer program uses information of numerous breeds and varieties (e.g. miniature schnauzers, giant schnauzers, etc.) included in the breed database. For each of the million possible combinations of pedigree trees the computer gave each a score representing how well the selected breeds match with your dog's DNA data. The pedigree with the best overall score is shown in the ancestry chart. Only breeds that reached confidence threshold for reporting are shown in the ancestry chart.

Certificate

Breed Identification of

sample dog

This certificate confirms the genetic background of sample dog, following careful analysis of more than 1800 genetic markers. The resulting matches of purebred dog breed signatures listed above included the last 3 generations of your dog's ancestry and were performed by using proprietary breed detection algorithm.

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