

Congratulations!

Ellie is a German Shepherd
Dog, Miniature Longhaired
Dachshund, Lakeland Terrier,
Smooth Fox Terrier Mix

In the following pages, you will learn about:

- KEY BREEDS DETECTED
- KEY BREED HISTORY, APPEARANCE, AND BEHAVIOR
- HOW KEY PHYSICAL TRAITS ARE INHERITED
- OTHER POSSIBLE MIXED BREED SIGNATURES
- PREDICTED WEIGHT
- HOW TO UPLOAD A PHOTO AND SHARE YOUR STORY
- ADDITIONAL INFORMATION

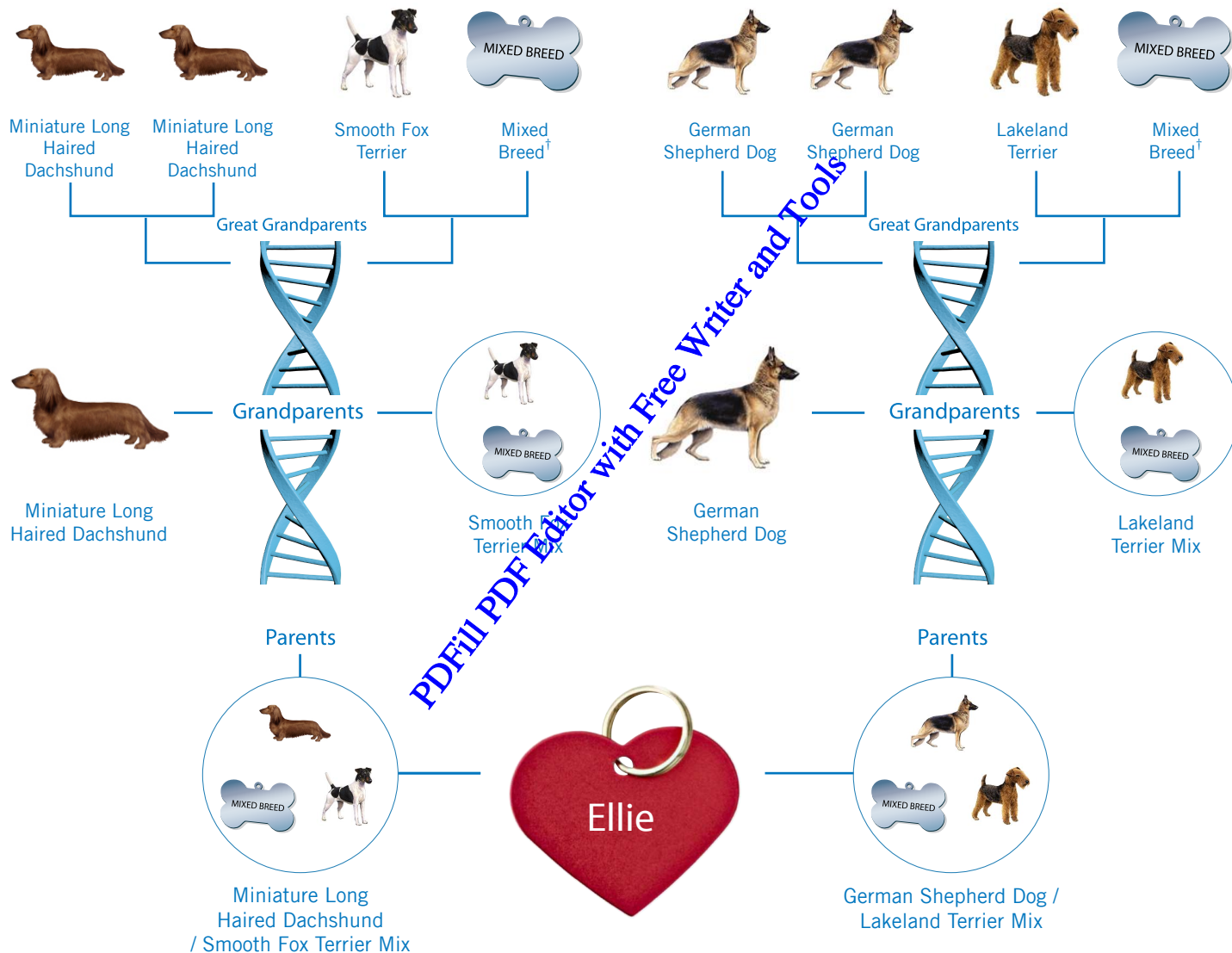


- **KEY BREEDS DETECTED**
- KEY BREED HISTORY, APPEARANCE & BEHAVIOR
- HOW KEY PHYSICAL TRAITS ARE INHERITED

- MIXED BREED SIGNATURES (IF DETECTED)
- ADDITIONAL INFORMATION
- CERTIFICATE

YOU HAVE A GERMAN SHEPHERD DOG, MINIATURE LONGHAIREDDACHSHUND, LAKELAND TERRIER, SMOOTH FOX TERRIER MIX

The **Wisdom Panel® Insights™** 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 Ellie. The ancestry chart depicting the best statistical result of this analysis is shown in the picture below.



MIXED BREED

† Interested in the Mixed Breed ancestry? Look for the Mixed Breed Signatures page later in the report!

GERMAN SHEPHERD DOG



HEIGHT:

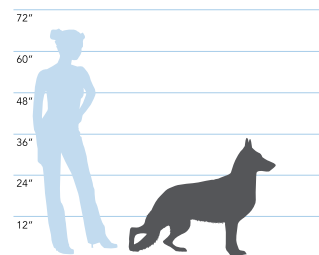
22 - 26 in

WEIGHT (SHOW):

48 - 89 lb

WEIGHT (PET):

48 - 97 lb



EARS



MUZZLE

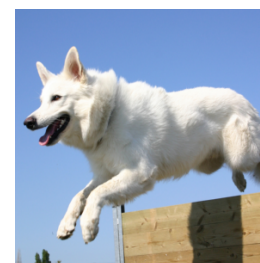
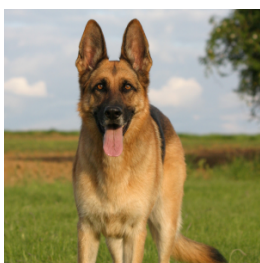
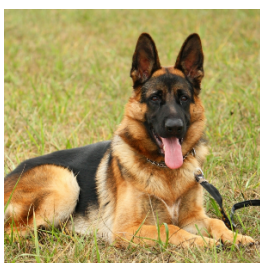


TAIL



The modern day German Shepherd breed is a cross between the long-haired, short-haired and wire-haired shepherd dogs of the German regions of Württemberg, Thuringia and Bavaria. Initially bred for herding, due to their strength, intelligence and excellent temperament, they became popular as guard dogs, guide dogs, search and rescue dogs, police dogs and military dogs. Max Emil Von Stephanitz sought to protect and refine the German Shepherd breed at the end of the nineteenth century. German Shepherds were used as German police and military dogs during World Wars I and II. Allied soldiers during World War I took notice of the Shepherd's use as messenger dogs or search and rescue dogs as they were very good at locating wounded soldiers. Some soldiers introduced the breed to their home countries and the popularity of the German Shepherd took off, making it one of the most popular breeds in the world today. The German Shepherd Dog was recognized by the American Kennel Club in 1908.

German Shepherd Dogs are generally a combination of black and tan, though more or less black may be seen. There is also a "gray" variant where the tip of the hair is black and the rest is tan. A black mask and a black "saddle" are both common traits in this breed. Although not an AKC variant, all-white German Shepherds exist as a separate FCI breed. The coat comes in long and short varieties.



DO YOU RECOGNIZE ANY OF THESE GERMAN SHEPHERD DOG TRAITS IN ELLIE?

- ☐ Personalities can vary from calm and watchful/observant to energetic.
- ☐ Enjoy participating in dog sports such as agility, tracking, flyball, and competitive obedience.
- ☐ Eager to learn and respond well to reward-based training.
- ☐ There have been reported incidents of German Shepherd Dogs being aggressive with other pets or people.

MINIATURE LONGHAIRD DACHSHUND



Miniature Longhaired
Dachshund

HEIGHT:

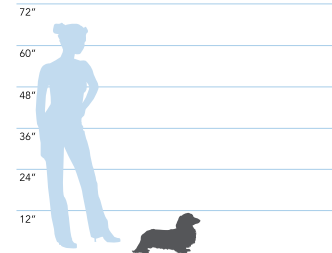
5 - 7 in

WEIGHT (SHOW):

4 - 11 lb

WEIGHT (PET):

5 - 13 lb



EARS



MUZZLE

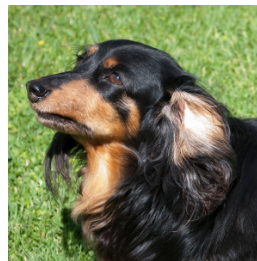


TAIL



The Dachshund, also known as the “hot dog” or “wiener dog,” dates back to the fifteenth century. Many accept the theory that the breed originated in Germany, although there is evidence that suggests that the breed may also have been present in Greece, Egypt, China and Mexico. The Dachshund was originally developed to hunt badgers, but they are also well-suited for hunting larger game. In 1888 the German Dachshund Club was founded and a breed standard was developed in an effort to promote a dog that was as beautiful as it was intelligent. The miniature long-haired variety is believed to have arisen through cross breeding the long-haired type with the Papillon to achieve the desired miniaturization. The breed was introduced to the United States in 1885 and received American Kennel Club recognition at that time.

The Miniature Longhaired Dachshund has a variety of coat colors with solid or bicolor combinations of light and dark black, red and tan shades. The bundle and dapple patterns are also sometimes seen in this breed as well as blue eyes. The long hair is especially noticeable on the ears, chest and tail.



DO YOU RECOGNIZE ANY OF THESE MINIATURE LONGHAIRD DACHSHUND TRAITS IN ELLIE?

☐ Alert, lively and active dogs.

☐ Because of their background as hunting dogs may engage in behaviors such as barking, scratching at the ground or digging and chasing wildlife.

☐ Enjoy activities that take advantage of its keen sense of smell like earthdog trials and both outdoor and indoor tracking. Many retrieve tennis balls.

☐ May be suspicious or fearful of strangers, in some cases as a way to avoid discomfort from being picked up due to their long-backed body.

LAKELAND TERRIER



HEIGHT:

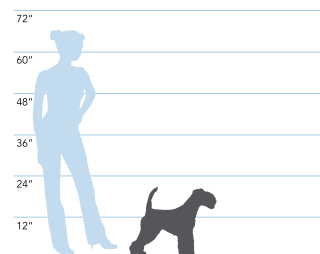
14 - 15 in

WEIGHT (SHOW):

15 - 17 lb

WEIGHT (PET):

12 - 24 lb



EARS



MUZZLE



TAIL



Once known as the Patterdale, Fell and Elterwater Terrier, the Lakeland Terrier originated in the Lake District region of northern England in the early twentieth century. The breed was used for the hunting of foxes, otters and badgers, and the build and agility of the Lakeland Terrier enabled it to pursue prey deep into tunnels. It is one of the oldest surviving working terrier breeds. World War I prevented any further serious interest until 1921. It was then that the name Lakeland Terrier was chosen and the standard set. American Kennel Club recognition of the Lakeland Terrier took place in 1934.

The Lakeland Terrier has a wiry doublecoat, which may be straight or slightly wavy over the body. The coat comes in a variety of colors, including blue (gray), black, liver, red and wheaten. A darker saddle pattern may also be seen in black, blue, liver, or grizzle (some black hairs).



DO YOU RECOGNIZE ANY OF THESE LAKELAND TERRIER TRAITS IN ELLIE?

- ☐ Intelligent, alert, energetic, sometimes clownish, and usually friendly dogs.
- ☐ Enjoy many dog sports such as earthdog trials, retrieving, agility, tracking, and flyball, along with hiking and sometimes swimming.
- ☐ May be willful, but respond well to reward-based training approaches, especially food rewards for dropping retrieved items not intended for play.
- ☐ May chase or hunt wildlife, be difficult to disengage from an activity or behavior, bark, or dig.



SMOOTH FOX TERRIER

Smooth Fox
Terrier



HEIGHT:

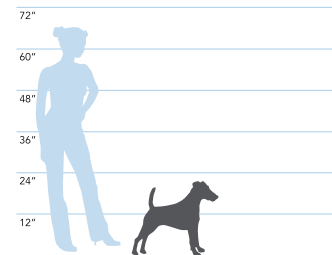
15 - 17 in

WEIGHT (SHOW):

12 - 22 lb

WEIGHT (PET):

12 - 28 lb



EARS



MUZZLE

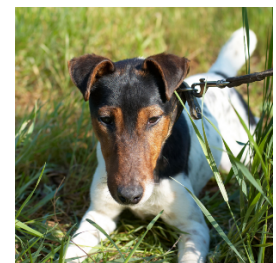
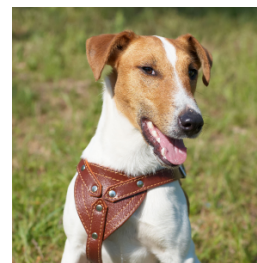
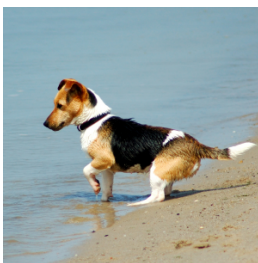


TAIL



The Smooth Fox Terrier first became known as its own breed in the 1860's in England. They were originally bred to hunt local vermin and fox. The attractive appearance, graceful conformation, and handsome coloring of the Fox Terrier made it the most popular member of the Terrier family. The direct ancestors of the Fox Terrier include the Old English Terrier, the Smooth-Coated Black-and-Tan Terriers, Bull Terriers, Greyhounds and Beagles. The Fox Terrier's popularity in the United States increased after the 1930's. Unfortunately, as the human population moved from rural to urban environments, the breed's population once again decreased. Keeping Fox Terriers in an urban environment was difficult because of the dogs' strong instincts and temperament. For almost one hundred years the Smooth Fox Terrier and the Wire Fox Terrier were registered as the same breed by the American Kennel Club, but in 1984, the two were recognized as distinct breeds and the Smooth Fox Terrier was given its own breed status.

The Smooth Fox Terrier has a smooth coat and the coat is predominantly white with patches of either black, tan, or black and tan. Solid white is also possible.



DO YOU RECOGNIZE ANY OF THESE SMOOTH FOX TERRIER TRAITS IN ELLIE?

☐ Intelligent, agile, energetic, and watchful dogs.

☐ Seem to be quick learners with reward-based training and as such enjoy dog sports such as agility, flyball, tracking and earthdog trials.

☐ As is the case with other Terriers, might not get along well with other dogs.

☐ May engage in chasing or hunting wildlife, digging, barking and being tenacious or difficult to disengage from an activity that has its attention.

HOW ARE KEY PHYSICAL TRAITS INHERITED?

THE INFLUENCE OF BREEDS ON APPEARANCE

This report reveals the breeds detected in your dog's DNA. It also includes checklists of physical traits associated with these breeds. Breeds can combine their influences in countless, fascinating ways. It's a unique combination that makes your dog one-of-a-kind.

Your dog may behave like - or strongly resemble - just one of the breeds in its makeup, but - much more commonly - your dog's looks and personality will blend aspects of these breeds. Consider the example below...

In this example, you can see how many of Tula's physical traits are due to a blending of breed influences.

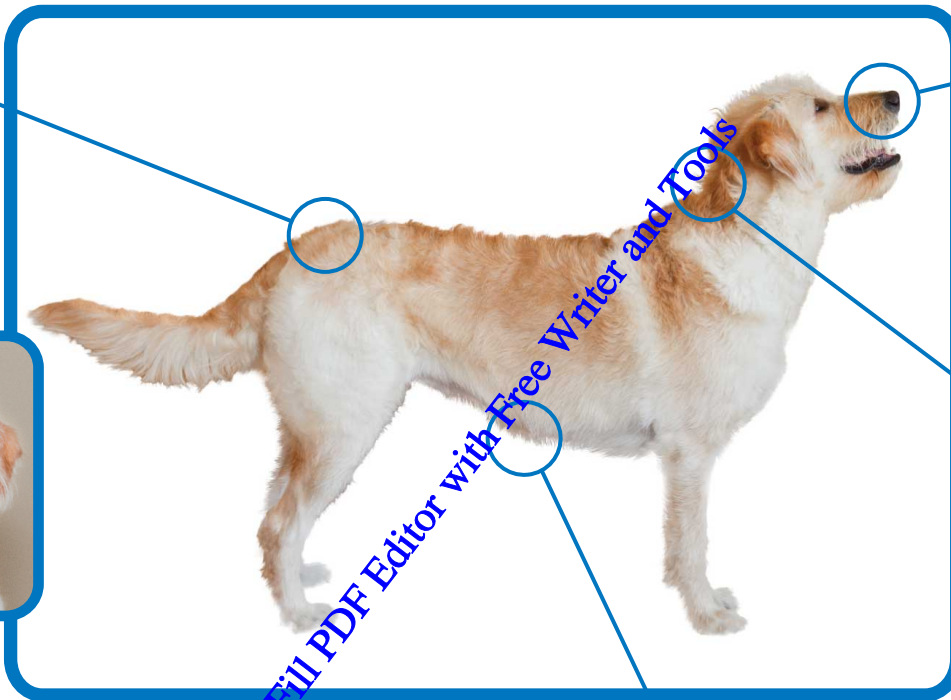
YELLOW COAT COLOR

requires two copies of a gene variant and is available from the Labrador Retriever, Poodle, and Golden Retriever.



FURNISHINGS

- the "beard" and "eyebrows" - is due to one copy of the furnishing gene variant from the Poodle.



BLACK NOSE

eye rims, lips, and pads on her feet are all due to one copy of the black gene variant that is available from all three ancestral breeds.

SOFT CURL

is coming from one copy of the curly gene variant from the Poodle and one copy of the straight variant from the Golden Retriever parent.

SHORT HAIR

is due to one copy of the gene variant from the Labrador Retriever that is dominant to the long coat of the Golden Retriever and Poodle.

Wisdom Panel® Insights™ found these breeds in our example dog Tula:



Golden Retriever



Labrador Retriever



Standard Poodle



For additional information, watch an illustrative video at <http://youtu.be/UAcP0ch4-C8> - it provides educational content around canine DNA, the basic blueprint for life, and a closer look at inherited genes.



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- CERTIFICATE

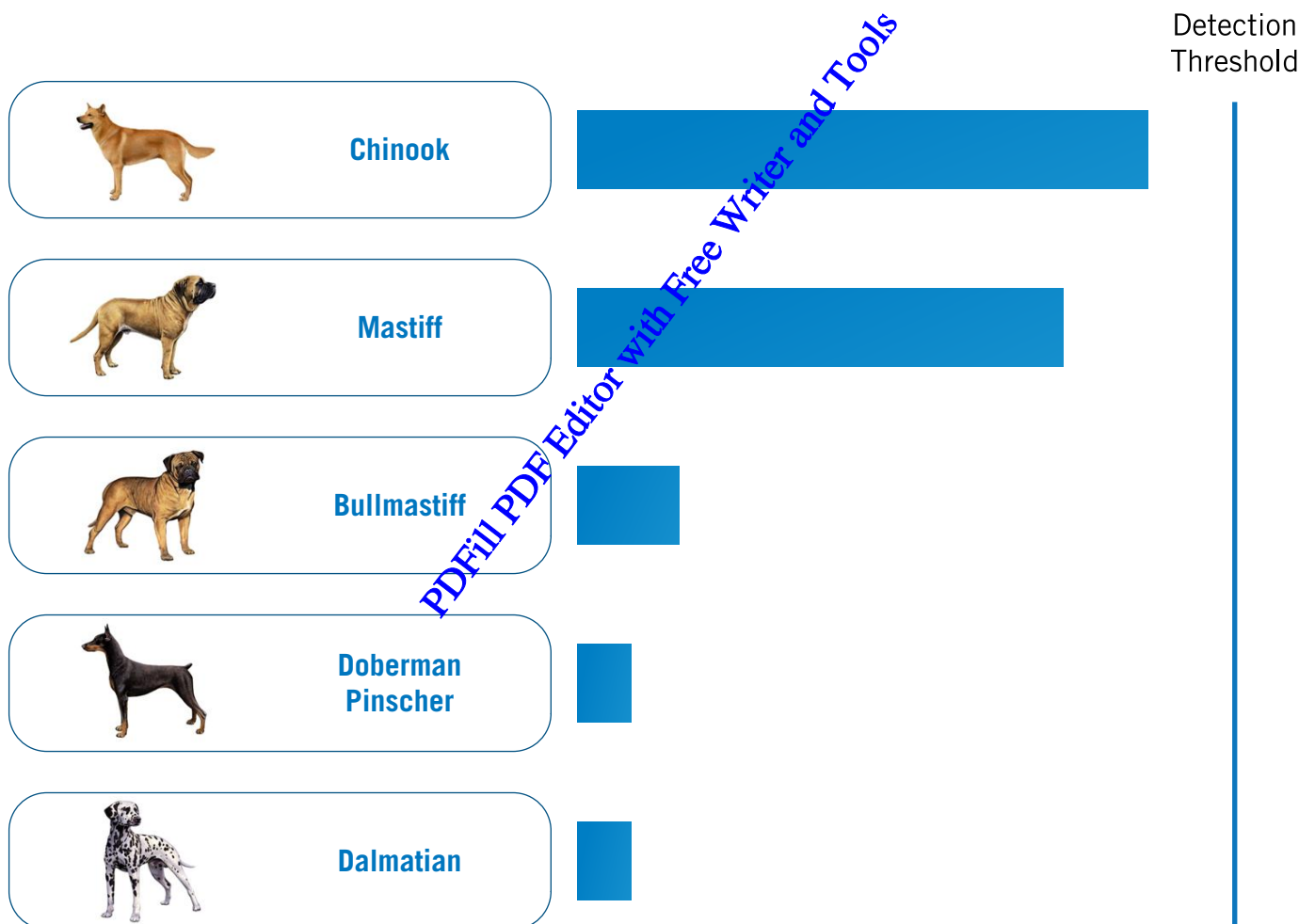


WHAT DOES THE MIXED BREED ANCESTRY MEAN FOR ELLIE?

A portion of Ellie's ancestry was predicted to be mixed beyond 3 generations. While it is difficult to identify strong breed signals in this mixed portion, the 5 breeds with the strongest statistical likelihood identified in the analysis of your dog's DNA are listed below.

The breeds are listed by the relative strength of each result in the analysis with the most likely at the top of the list. One or more of these breeds **could have** contributed to the genetic makeup of the ancestors indicated by the mixed breed icon. Note that it is highly unlikely that all these breeds are present in Ellie's ancestry.

There could also be a breed or breeds present in the mixed breed component that cannot be detected with the current database of over 200 breeds.



For more information about how Wisdom Panel Insights is performed, please see the “HOW WISDOM PANEL INSIGHTS WORKS” section later in this report.



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PREDICTED ADULT WEIGHT PROFILE:

Based upon the breeds detected in Ellie's ancestry and the genetic markers analyzed by **Wisdom Panel® Insights™**, as well as the information provided that Ellie is **Female** and **Spayed**, we have calculated the likely weight that Ellie should reach when an adult. The **Wisdom Panel Insights** target weight profile is presented as a range based on the unique mix and proportion of breeds detected.

- The adult weight is predicted to be between 26 - 43 lbs.

Many factors can influence an adult dog's weight, including sex and neuter status. Both of these factors have been used to calculate the predicted weight profile. Another major influence on canine weight is body condition score, which is a factor of your dog's lifetime nutrition and exercise regimen. If your dog's body condition is different from the ideal body condition score, we anticipate that your dog might be under (if underweight) or over (if overweight) the weight predicted by **Wisdom Panel Insights**.

To learn more about assessing body condition score, please use the Royal Canin™ Body Condition Score Chart:

<http://www.royalcanin.co.uk/products/products/dog-s-body-condition2>

More information on this can be found at: <http://www.wisdompanelpro.com/sizeprediction/>



CUSTOMIZE YOUR DOG'S CERTIFICATE:

You can now include a photo of your dog on your certificate.

- Simply go to: http://www.wisdompanel.com/test_status_checker/ or go to www.wisdompanel.com and click on the TEST STATUS CHECKER box at the top
- Enter your last name and test sample ID #
- Click on the UPLOAD PHOTO button
- Follow the pop-up instructions to upload your dog's photo



BECAUSE YOU LOVE YOUR DOG - SHARE THEIR STORY!

Join our online community of dog owners and share your dog's **Wisdom Panel Insights** story with the world. At **WisdomPanel.com** you can:

- Register your dog and upload photos into our Wisdom Panel photo gallery at: http://www.wisdompanel.com/photo_gallery/
- Get help to show off your dog's breed profile on your blog, Facebook and Twitter

Use these details to create your dog's profile at wisdompanel.com:

Owner: Adam [REDACTED]
Report Code: 3526 [REDACTED]



You can also post your story on our Facebook page, Doggie DNA, and don't forget to follow us on Twitter!



Thank you for using Wisdom Panel® Insights™ to uncover the story of your dog's ancestry!

Congratulations on taking the steps to learn about Ellie's ancestry and to understand what breeds are in your mixed breed dog using **Wisdom Panel Insights!** Knowing your dog's breeds is more than a novelty - it is a medical necessity. Each breed in your pooch's genetic paw print has unique health concerns you should know about so that you can provide a lifetime of excellent care.



We recommend discussing your dog's ancestry report with your veterinarian, as he or she can help you use your **Wisdom Panel Insights** report to help better care for Ellie. The next time you visit your veterinarian, consider asking these questions in addition to any you come up with on your own:

- Are there any specific issues that may be relevant to my dog's well-being?
- Are there any special techniques that may help in training a dog with this particular mix?
- Are there any particular dietary considerations to bear in mind for a dog like mine?

HOW WISDOM PANEL INSIGHTS WORKS

The process started when you sent a sample to our laboratory, where the DNA was extracted from the cells and examined for the 321 markers that are used in the test. The results for these markers were sent to a computer, that evaluated them using a program designed to consider all of the pedigree trees that are possible in the last three generations. The trees considered include a simple pedigree with a single breed (a likely pure-bred dog), two different breeds at the parental level (a first-generation cross) all the way up to a complex tree with eight different great-grandparent breeds allowed.

Our computer used information from over 200 breeds and varieties from our breed database to fill these potential pedigrees. For each of the millions of combinations of ancestry trees built and considered, the computer gave each a score representing how well that selected combination of breeds matched to your dog's data. The pedigree with the overall best score is the one which is shown on the ancestry chart. Only breeds that reached our set confidence threshold for reporting are reported in the ancestry chart.

MORE BREED INFORMATION

Visit www.Genesis4Pets.com to find out more about your dog's health-care needs: you'll feel better knowing that you're doing everything you can to keep your pal happy and healthy. In addition to loads of free, easy-to-understand information based on the latest medical research, you will receive a 50% discount on all downloadable health-care booklets that explain the common health concerns for individual breeds. Simply enter promotional code **WISDOM** when you check out to receive your discount (expires 30 days after you receive your Wisdom Panel report).

Accessing your test status checker online also lets you view Mixed-Breed Genesis health reports provided by VetThink™ which are designed to assist you to take the best possible care of your dog throughout its life.



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TERMS AND CONDITIONS

Each dog is unique and their physical and behavioral traits will be the result of multiple factors, including genetics, training, handling, and environment. Using a proprietary analysis and database, **Wisdom Panel® 2.0** product can provide insight into the breed ancestry of your dog. The **Wisdom Panel 2.0** product is designed and intended to be used solely to either identify the genetic breed makeup and predict the adult size of such a mixed-breed dog, or to confirm the genetic profile observed in a tested dog matches a particular breed profile. No other purpose is intended, authorized, or permitted.

Upon receipt of your sample, Mars Veterinary will analyze your dog's DNA to determine the breed(s) present in your dog's recent ancestry. In the case of a likely purebred dog, this will involve a comparison of genetic profile in your dog to a proposed breed. In the case of a proposed crossbred dog (i.e. a dog with ancestry from two different purebred parents), this will involve determining the heritage of your dog's sire and dam. In all cases this is done with a reasonable degree of certainty.

Mars Veterinary's testing procedures are designed to provide reliable and accurate results. Mars Veterinary is not responsible for any errors in obtaining the swab sample or for any injuries or loss that may occur as a result.

In the unlikely event that it is not possible to determine breed history or that an error in the analysis occurs, liability by Mars Veterinary or related companies and individuals is expressly disclaimed. Damages, if any, are limited to the payment actually received by Mars Veterinary for the specified analysis at issue.

Wisdom Panel 2.0 is based upon the Mars Veterinary database of validated breeds. If your dog contains other breeds, it may result in the identification of breeds, or a combination of breeds in the database, related to the breeds in your pet's history.

Many countries and provinces have breed-specific ordinances and laws that may require special handling or prohibit the ownership of some dogs with a particular breed in their genetic background. **Wisdom Panel 2.0** is not intended to be used by regulatory or animal control officials to determine whether a particular breed is legislated or banned in a particular country or province. Nor is **Wisdom Panel 2.0** intended to be used in any judicial proceedings. Rather, it is intended to be used as a tool or resource in determining a dog's genetic history. Neither Mars Veterinary nor any related company is responsible for compliance or notification regarding these matters.

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STATEMENT OF AUTHENTICATION

Owner's name: **Adam**

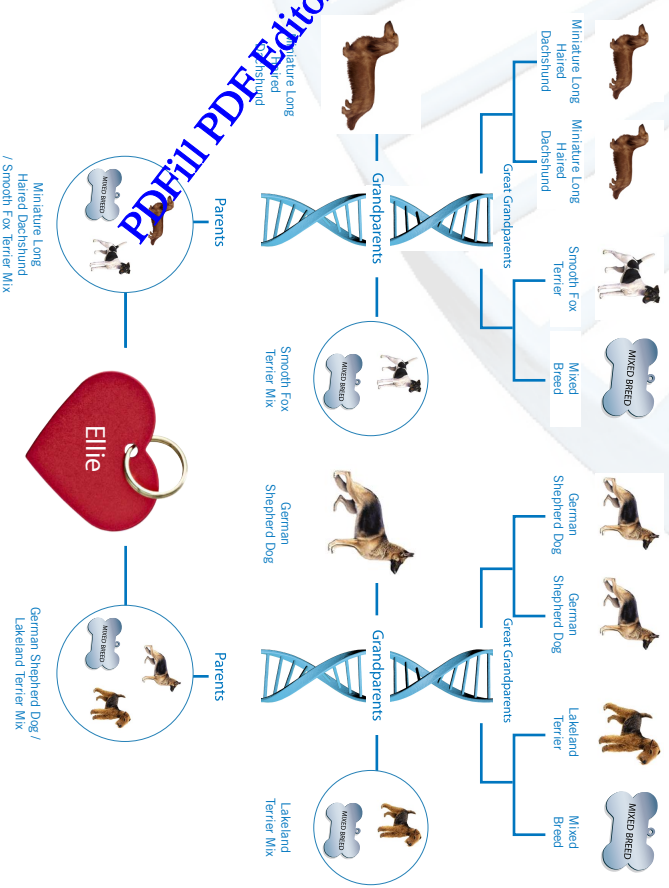
Dog's name: **Ellie**

Date: **June 12, 2014**

This certifies the authenticity of Ellie's canine genetic background as determined following careful analysis of more than 300 genetic markers using **Wisdom Panel® Insights™**. The purebred dog breed signature matches included in this analysis are those that were detected in the last three generations of Ellie's ancestry using the proprietary breed detection algorithm at Mars Veterinary.

DR. NEALE FRETWELL

Research & Development Director



Ellie is a German Shepherd Dog, Miniature Longhaired Dachshund, Lakeland Terrier, Smooth Fox Terrier Mix