

Congratulations!

You're about to uncover the story of your dog's ancestry.

In this report, you will find detailed results from **Humphrey's Wisdom Panel® Professional** DNA analysis.

In the following pages, you will learn about:

- BREED DETECTION
- APPEARANCE, BEHAVIOR & HISTORY
- BREED APPEARANCE
- SHARING YOUR DOG'S STORY

It is important to carefully review your entire report and discuss the results with your veterinarian to gain the most valuable insight into **Humphrey**.

Owner Name: **Jennifer Smith**

Test Report Code: **4000049579**

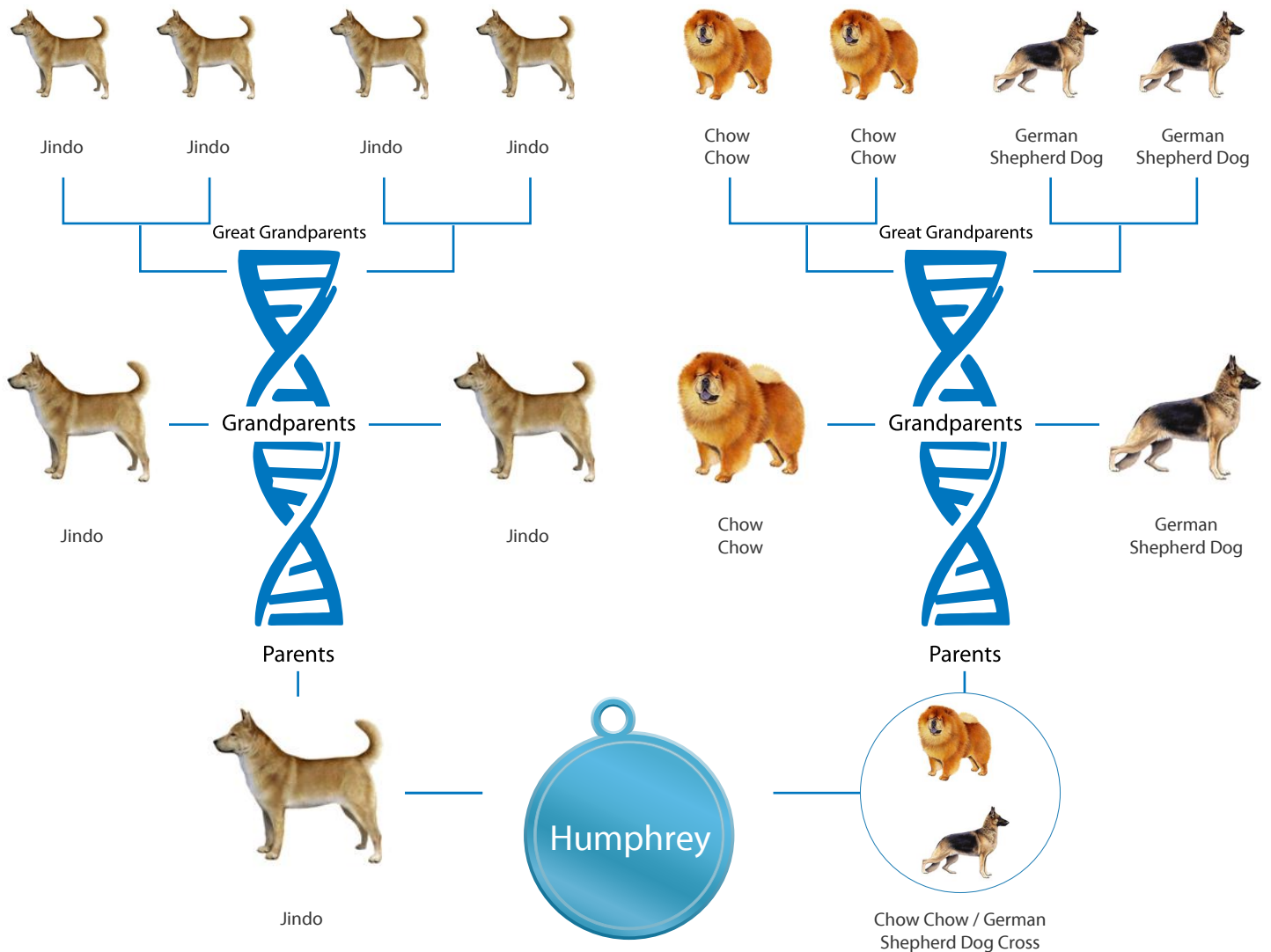
Date Printed: **July 24, 2014**

What's Your Dog's Tale?



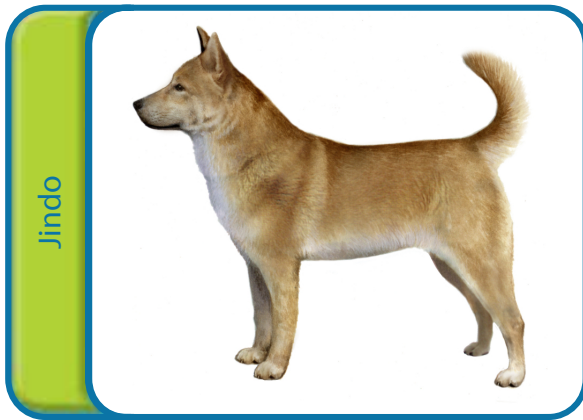
You have a Jindo, Chow Chow, German Shepherd Dog Cross!

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



Learn more about the Breeds detected in Humphrey on the following pages...

Jindo


Height:

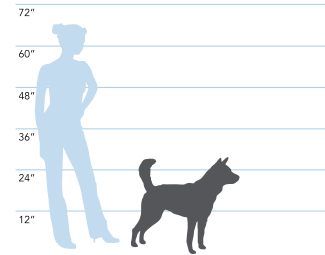
16 - 25 in

Weight (Show):

33 - 51 lb

Weight (Pet):

30 - 61 lb

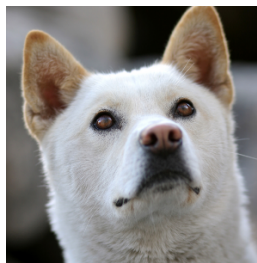

Ears:

Muzzle:

Tail:


The Korean Jindo dog is a rare spitz-type hunting dog originating from the Island of Jindo in South Korea. There are no official written records of its origins, which remain unknown and speculative. This breed has been isolated on Jindo for hundreds of years and, owing to the absence of other dogs, the Jindo's genetic pool has remained relatively pure throughout the centuries. The primary functions of the Jindo are hunting and guarding. The breed is protected under the Cultural Properties Protection Act and in 1962, the breed was recognized as the 53rd Natural Treasure by the Korean government. Jindos were used in the opening ceremony of the 1988 Summer Olympics held in Seoul. It is illegal to export Jindos out of Korea, however many Korean-Americans have been exporting them since the mid-1980s. The breed was recognized by the United Kennel Club in 1998. The Jindo has been recorded in the Foundation Stock Service of the American Kennel Club since January 2008.

The Jindo comes in three coat varieties, including red (including a deep red to a light fawn) to white (including red or gold hints on the ears or legs) or black and tan.



Do you recognize any of these Jindo traits in Humphrey?

- Fiercely loyal, highly intelligent hunting dogs.
- Highly intelligent but may be willful and stubborn and will benefit from firm and consistent handling.
- Make excellent guard dogs as they are highly protective of their families and may be aloof with strangers.
- Has an innate sense of direction probably linked to their highly tuned sense of smell. They are said to recognize and remember over 30,000 different scents.

Chow Chow


Height:

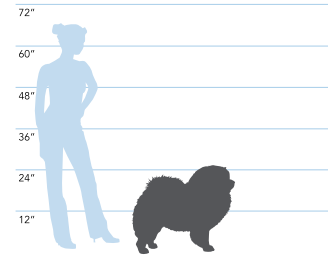
18 - 22 in

Weight (Show):

40 - 65 lb

Weight (Pet):

42 - 69 lb

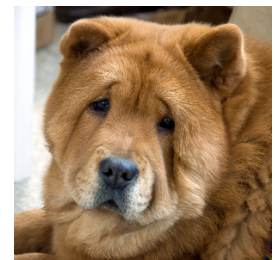
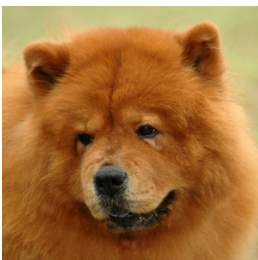

Ears:

Muzzle:

Tail:


The Chow Chow is a venerable breed dating back at least two thousand years. Many believe that the breed originated in China, but there is some evidence that indicates the Chow Chow actually migrated to China from Mongolia and Manchuria. While no one can say for sure from which breeds the Chow Chow has descended, it is believed that the breed has Tibetan mastiff and Samoyed in its bloodline. The Chow Chow served a dual purpose in China. Some were used for hunting while others were used to guard the sacred temples from evil entities. The East Indian Company brought the Chow Chow to England in 1781 and Queen Victoria received Chow Chows as a gift in 1865. During the 1880's, the numbers of Chow Chows imported increased drastically. The Chow Chow is one of the oldest known breeds, recognized by the American Kennel Club in 1903.

The Chow Chow comes in either rough or smooth coat, with the rough having a more fluffy appearance. The coat may have lighter shading and be one of five colors; black, blue, cinnamon, cream, and red, which varies from a light golden to a deep mahogany. The Chow is famous for its blue mottled tongue, and sometimes has a black mask.



Do you recognize any of these Chow Chow traits in Humphrey?

- Reputation as a loyal family dog.
- Reserved and wary with strangers.
- Independent spirit, but responds to reward-based obedience training.
- May require socialization to reduce defensive aggressive tendencies. There have been reported incidents of Chow Chows being aggressive with other pets or people.

German Shepherd Dog


Height:

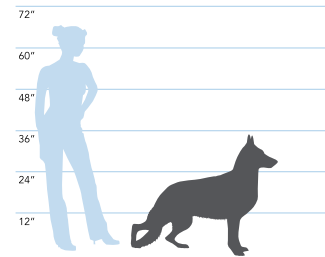
22 - 26 in

Weight (Show):

48 - 89 lb

Weight (Pet):

48 - 97 lb

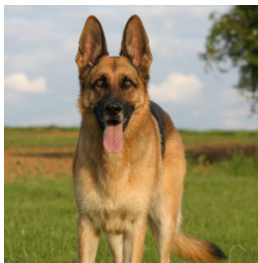
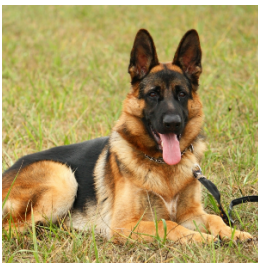

Ears:

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 Humphrey?

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

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.

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.

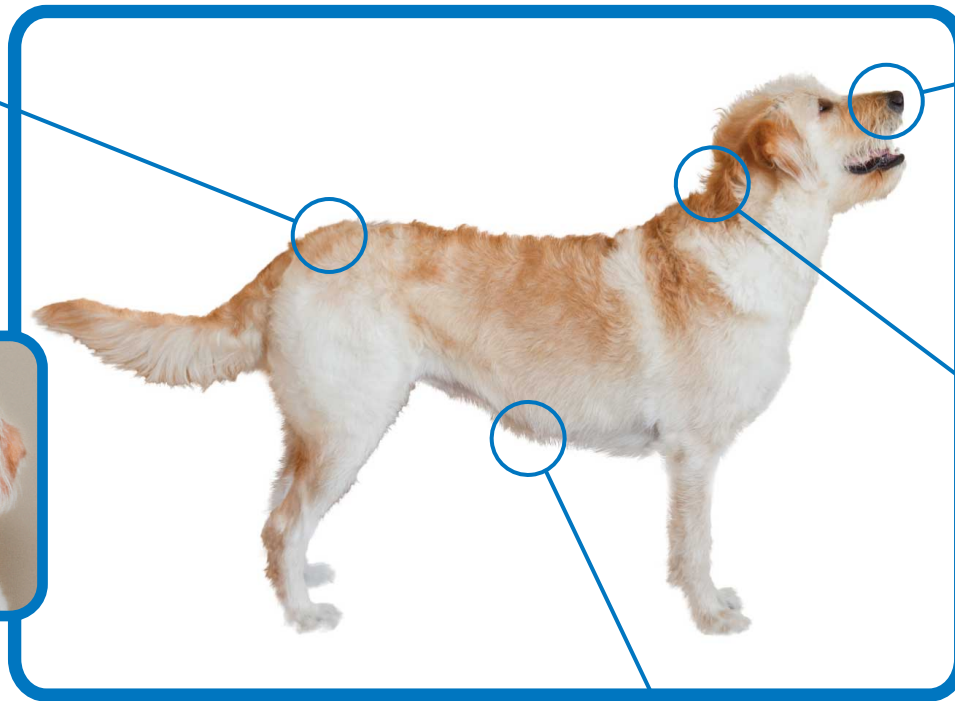


FURNISHINGS

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

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® Professional 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/UAcPOch4-C8> - it provides educational content around canine DNA, the basic blueprint for life, and a closer look at inherited genes.

Thank you for choosing *Wisdom Panel® Professional* to uncover the story of your dog's ancestry!

Congratulations on taking the steps to learn about your dog's ancestry and to understand what breeds are in your mixed breed dog using *Wisdom Panel Professional*! 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.

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).

Predicted Adult Weight Profile for Humphrey:

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

- If Intact, the adult weight is predicted to be between 46 - 71 lbs.
- If Neutered, the adult weight is predicted to be between 51 - 77 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 Professional*.

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

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

Tell Your Dog's Tale

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

- Register your dog and upload photos into our Wisdom Panel photo gallery
- Get help to show off your dog's breed profile on your blog, Dogster page, Facebook and Myspace profiles
- Access your report online with our Test Status Checker.

This will also allow you to access 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.



Visit www.wisdompanel.com/photos and use these details to create your dog's profile:

Owner: **Jennifer Smith**
Report Code: **4000049579**

Each dog is unique and their physical and behavioral traits will be the result of multiple factors, including genetics, training, handling and environment. *Wisdom Panel® Professional*'s proprietary genetic analysis is intended to provide owners insight to potential predispositions to physical and behavioral traits in breeds which have been identified in your dog and is not intended to predict disease or behavior in any particular dog.

As part of the *Wisdom Panel Professional* service, Mars Veterinary performs thirteen disease screening tests for known genetic mutations using a high throughput genotyping panel. Each test is run twice on the genotyping panel in opposite orientation to ensure that results are consistent and as accurate as possible. Occasionally due to variations in DNA sample quality it may not be possible to provide a result for a specific mutation test if the marker fails to give a DNA genotype call in testing. Mars Veterinary and Mars, Incorporated are not associated with and do not endorse or sponsor the commercial tests being conducted by VetGen, Washington State University, University of Minnesota, The Animal Health Trust or Optigen.

Wisdom Panel Professional is used to help determine the breed makeup of a dog. Validation testing has resulted in an average accuracy* of 90% in first-generation crossbred dogs of known parentage. The breeds in this validation study represent 45% of AKC registrations.

In the unlikely event that it is not possible to determine breed history or that an error in the breed analysis, disease mutation screening, size prediction, or health indicator analysis occurs, liability by Mars Veterinary or related companies and individuals is disclaimed and damages in any event are limited to the payment actually received by Mars Veterinary for the individual specified analysis at issue.

The *Wisdom Panel Professional* product is designed and intended to be used solely to identify the genetic makeup and predict the adult size and breed-related health risks of a mixed breed dog and no other purpose is authorized or permitted. Consult your veterinarian for information regarding your particular dog's physical and behavioral condition.

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 Professional* 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 Professional* 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.

*Accuracy was determined by average Positive Predictive Value across breeds studied. Breeds detected at low levels of certainty were not included in accuracy calculation.

Purebred Ancestry Certification

Wisdom Panel® Professional certifies that:

Humphrey

is a genetic mixture of the following canine breeds:

Jindo, Chow Chow and German Shepherd Dog.

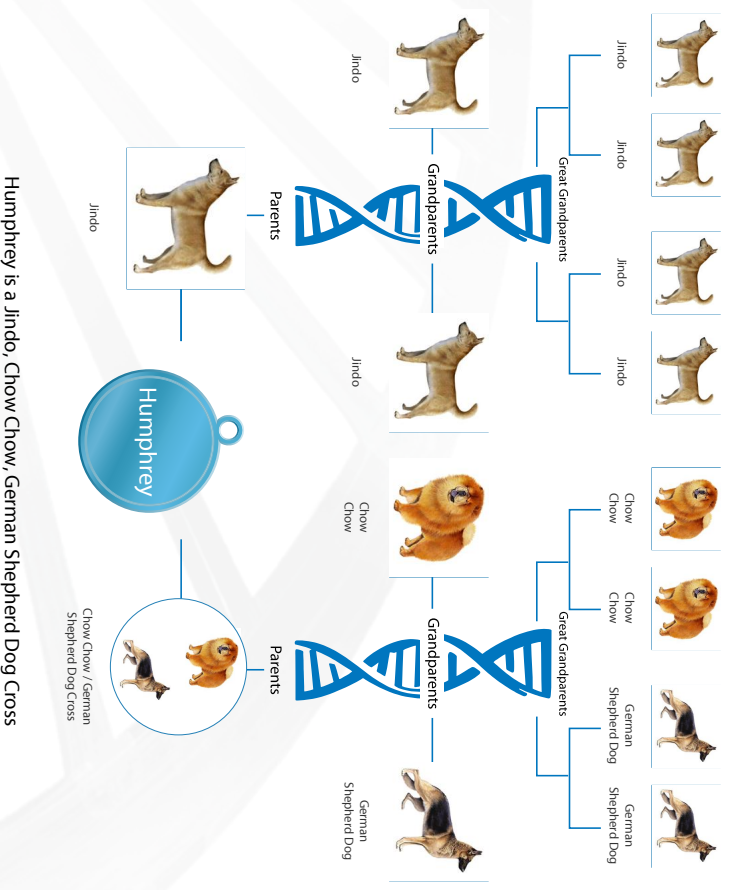
July 24, 2014

Statement of Authenticity

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

Dr. Neale Fretwell

Research & Development Director



Humphrey is a Jindo, Chow Chow, German Shepherd Dog Cross