Tiger

Happy Tail's Blazing Tiger

Mini Poodle

DOB: 01.01.2022

Registration: AKC

PR2499803

Weight: 14 lbs

Height: 16"

Color: Red & White

Personality Traits: The classic, reliable family dog, Tiger is what many visualize when they want a dog: happy yet calm, playful but not rough, sociable but not overly friendly. Tiger has a great temperament and a happy demeanor, he is always happy to see you and loves spending time with people.

Additional Comments: Tiger is a new exciting red and white parti. His Berne-doodles from Bernese are all tri's with nice tan points! Tigers DNA is exciting with no KB! Great for purebreds or Goldens as well. Totally clear on the genetic disorder panel, CDDY, & CDPA.

Tiger's Genetics

Disorder Results (6 of 16)		
CDPA	N/N	Clear: Dog is negative for the CDPA mutation.
CDDY	N/N	Clear: Dog is negative for the mutation associated with CDDY.
DM	n/n	Clear: Dog is negative for mutation associated with Degenerative Myelopathy.
NEwS	n/n	Clear: Dog is negative for mutation associated with NEwS.
PRA-prcd	n/n	Negative: Dog is negative for the mutation associated with prcd-PRA.
vWD1	n/n	Clear: Dog is negative for the mutation associated with von Willebrand's Disease Type I.
Color Results (5 of 16)		
A-Locus	at/at	Dog has two copies of the gene causing tan points.
B-Locus	B/b	Dog carries one copy of the gene responsible for chocolate/brown coloration
D-Locus	D/D	Negative: Dog is negative for the mutation associated with a diluted coat color.
E-Locus	e/e	Dog has two copies of cream/yellow.
K-Locus	n/n	Dog is negative for the KB allele, and the coat coloration will be based on the agouti genotype.
Pattern Results (1 of 16)		
S-Locus	S/S	Homozygous: Dog has two copies of S-Locus resulting in a nearly solid white, parti, or piebald coat color.
Trait Results (4 of 16)		
Curl 1&2	C^1/C^1	The dog has two copies of the hair curl allele. The dog will have curly hair, and will always pass on a copy of the hair curl allele to any offspring. All offspring of this dog will have curly hair.
Furnishings	F/F	Furnished: Dog has two copies of the furnishings mutation and will always produce offspring with a furnished coat.
Hair Length (1-5)	I^1/I^1	Two copies of the long-hair allele, dog will have longer than average hair per the breed standard.
Shedding	n/n	Dog has no copies of the shedding allele. The dog will have a low propensity towards shedding.

Tiger's Puppies

Mini Bernedoodles from Bernese

AMERICAN KENNEL CLUB

NAME
HAPPY TAIL'S BLAZING TIGER

NUMBER
PR24919803

BREED
POODLE

SEX
MALE

COLOR
RED & WHITE

DATE OF BIRTH
JANUARY 1, 2022

SIRE
HAWK VALLEY'S RED AND WHITE FALLING TIMBER
PR23827201 04-22 (EYE7)

DAM
HAWK VALLEY'S BEAUTIFUL TRI COLORED BROOK
PR22163401 07-21

BREEDER
TERRY WEATHERMAN

OWNER

MATTHEW YODER
4460 TR 617
MILLERSBURG OH 44654

AMERICAN KENNEL CLUB®

CERTIFICATE ISSUED
JUNE 7, 2022

This certificate invalidates all previous certificates issued.

If a date appears after the name and number of the sire and dam, it indicates the issue of the Stud Book Register in which the sire or dam is published.

For Transfer Instructions, see back of Certificate.

This Certificate issued with the right to correct or revoke by the American Kennel Club.

REGISTRATION CERTIFICATE

American Canine Association, Inc.

Official Registration Certificate

NAME: HAPPY TAIL'S BLAZING TIGER

REGISTRATION NUMBER: OH-ABA-1994230-001

SEX: Male

Internet Access Code: OH7357576

BREED: POODLE

CERTIFICATE ISSUE DATE: 12/21/2022

WHELPED: 01/01/2022

COLORS: Red & White

SIRE: Hawk Valley's Red and White Falling Timber **OH-ABA-1962370-003**

Red & White

DAM: HAWK VALLEY'S BEAUTIFUL TRI COLORED BROOK **R22163401**

Black & Tan, Black Mask

CURRENT OWNER:
Matthew Yoder
4460 TR 617
Millersburg, OH 44654
USA

AMERICAN CANINE ASSOCIATION, INC. ACA America's Largest Veterinary Health Tracking Canine Registry OFFICIAL SEAL

Animal Genetics

3382 Capital Circle NE
Tallahassee, FL 32308

Generated on: 06/30/22

Genetic Testing Report

Blazing Tiger

Submitted By

Matthew Yoder
Happy Tail Pets, LLC
4460 Township Rd 617
Millersburg , OH 44654
USA

Owned By

Matthew Yoder

Subject Dog

Dog Name: **Blazing Tiger**
Breed: **Miniature Poodle**
Phenotype: **Red & White**
Sex: **Male**
Birth 1/1/2022

Lab Reference #: **555059**

Disorder Results (6 of 16)

CDPA	**N/N**	Clear: Dog is negative for the CDPA mutation.
CDDY	**N/N**	Clear: Dog is negative for the mutation associated with CDDY.
DM	**n/n**	Clear: Dog is negative for mutation associated with Degenerative Myelopathy.
NEwS	**n/n**	Clear: Dog is negative for mutation associated with NEwS.
PRA-prcd	**n/n**	Negative: Dog is negative for the mutation associated with prcd-PRA.
vWD1	**n/n**	Clear: Dog is negative for the mutation associated with von Willebrand's Disease Type I.

Color Results (5 of 16)

A-Locus	**at/at**	Dog has two copies of the gene causing tan points.
B-Locus	**B/b**	Dog carries one copy of the gene responsible for chocolate/brown coloration
D-Locus	**D/D**	Negative: Dog is negative for the mutation associated with a diluted coat color.
E-Locus	**e/e**	Dog has two copies of cream/yellow.
K-Locus	**n/n**	Dog is negative for the KB allele, and the coat coloration will be based on the agouti genotype.

Pattern Results (1 of 16)

S-Locus	**S/S**	Homozygous: Dog has two copies of S-Locus resulting in a nearly solid white, parti, or piebald coat color.

Trait Results (4 of 16)

Curl 1&2	**C^1/C^1**	The dog has two copies of the hair curl allele. The dog will have curly hair, and will always pass on a copy of the hair curl allele to any offspring. All offspring of this dog will have curly hair.
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Hair Length (1-5)	**I^1/I^1**	Two copies of the long-hair allele, dog will have longer than average hair per the breed standard.
Shedding	**n/n**	Dog has no copies of the shedding allele. The dog will have a low propensity towards shedding.

embark

DNA Test Report

Dog Information

Happy Tail's Blazing Tiger (6164-Tiger)
NAME

Male
SEX

Poodle
Breed with variety:
69.3% Poodle (Small)
30.7% Poodle (Standard)
BREED ANCESTRY

January 1st, 2022
DATE OF BIRTH

n/a
MICROCHIP

American Kennel Club (AKC) PR24919803
REGISTRATION

Matthew Yoder
OWNER NAME

Canine Genetic Health Screen
TEST

July 27th, 2023
TEST DATE

BREED HEALTH TESTS

To ensure completeness, this report includes all carrier and at risk results for this dog.

DISEASE	GENE	GENOTYPE	RESULT	TESTING RECOMMENDED BY
Degenerative Myelopathy, DM	SOD1(A)	GG	Clear	
Neonatal Encephalopathy with Seizures, NEWS	ATF2	TT	Clear	
Osteochondrodysplasia, Skeletal Dwarfism	SLC13A1	NN	Clear	
Progressive Retinal Atrophy, prcd	PRCD Exon 1	GG	Clear	
Von Willebrand Disease Type I, Type I vWD	VWF	GG	Clear	
Chondrodystrophy and Intervertebral Disc Disease, CDDY/IVDD, Type I IVDD	FGF4 - chr12	N/N	Clear	
GM2 Gangliosidosis	HEXB (Exon 3)	NN	Clear	
Methemoglobinemia	CYB5R3	GA	1 Variant	

DNA Test Report

Dog Information

Happy Tail's Blazing Tiger (6164-Tiger)
NAME

INBREEDING AND DIVERSITY

Genetic Diversity	RESULT	GENETIC RESULT
Coefficient Of Inbreeding		31%
MHC Class II - DLA DRB1		Low Diversity
MHC Class II - DLA DQA1 and DQB1		Low Diversity

DNA Test Report

Dog Information

Happy Tail's Blazing Tiger (6164-Tiger)
NAME

TRAIT TESTS (1/3)

Coat Color	RESULT	GENETIC RESULT
E Locus (MC1R)	No dark hairs anywhere	ee
K Locus (CBD103)	Not expressed	$k^y k^y$
Intensity Loci LINKAGE	Any pigmented hair likely yellow or tan	Intermediate Red Pigmentation
A Locus (ASIP)	Not expressed	$a^t a^t$
D Locus (MLPH)	Not expressed	DD
Cocoa (HPS3)	No co alleles, not expressed	NN
B Locus (TYRP1)	Likely black colored nose/feet	Bb
Saddle Tan (RALY)	Not expressed	II
S Locus (MITF)	Likely flash, parti, piebald, or extreme white	spsp
M Locus (PMEL)	No merle alleles	mm
R Locus (USH2A) LINKAGE	Likely no impact on coat pattern	rr

DNA Test Report

Dog Information

Happy Tail's Blazing Tiger (6164-Tiger)
NAME

TRAIT TESTS (2/3)

Coat Color	RESULT	GENETIC RESULT
H Locus (Harlequin)	No harlequin alleles	hh

Other Coat Traits	RESULT	GENETIC RESULT
Furnishings (RSPO2) LINKAGE	Likely furnished (mustache, beard, and/or eyebrows)	FF
Coat Length (FGF5)	Likely long coat	TT
Shedding (MC5R)	Likely light shedding	TT
Hairlessness (FOXI3) LINKAGE	Very unlikely to be hairless	NN
Hairlessness (SGK3)	Very unlikely to be hairless	NN
Oculocutaneous Albinism Type 2 (SLC45A2) LINKAGE	Likely not albino	NN
Coat Texture (KRT71)	Likely curly coat	TT

Other Body Features	RESULT	GENETIC RESULT
Muzzle Length (BMP3)	Likely medium or long muzzle	CC
Tail Length (T)	Likely normal-length tail	CC
Hind Dewclaws (LMBR1)	Unlikely to have hind dew claws	CC

DNA Test Report

Dog Information

Happy Tail's Blazing Tiger (6164-Tiger)
NAME

TRAIT TESTS (3/3)

Other Body Features	RESULT	GENETIC RESULT
Blue Eye Color (ALX4) LINKAGE	Less likely to have blue eyes	NN
Back Muscling & Bulk, Large Breed (ACSL4)	Likely normal muscling	CC

Body Size	RESULT	GENETIC RESULT
Body Size (IGF1)	Smaller	II
Body Size (IGFR1)	Larger	GG
Body Size (STC2)	Larger	TT
Body Size (GHR - E191K)	Smaller	AA
Body Size (GHR - P177L)	Larger	CC

Performance	RESULT	GENETIC RESULT
Altitude Adaptation (EPAS1)	Normal altitude tolerance	GG
Appetite (POMC) LINKAGE	Normal food motivation	NN

DNA HEALTH SUMMARY

Test Date: **7/5/2023**

"6164-Tiger"

Registered Name:	**Happy Tail's Blazing Tiger**
Date of Birth:	**1/1/2022**
Sex:	**Male**
Breed Ancestry:	**69.3% Poodle (Small) + 30.7% Poodle (Standard)**
Registration Body/Number:	**American Kennel Club (AKC) PR24919803**
Embark Swab Code:	**31220612400413**
Embark Profile:	**http://embk.me/happytailsblazingtiger**

Your dog's DNA was tested by Embark Veterinary, Inc. for the likelihood of developing clinical signs from 7 health conditions that are currently relevant for their breed(s). Please speak to your veterinarian and breeder about specific risks and care recommendations associated with your dog's results.

Great news!

Your dog is **not expected to develop signs and symptoms** from the specific variants* for the following breed-relevant conditions:

- Chondrodystrophy and Intervertebral Disc Disease, CDDY/IVDD, Type I IVDD (FGF4 retrogene - CFA12)

- Degenerative Myelopathy, DM (SOD1A)

- GM2 Gangliosidosis (HEXB, Poodle Variant)

- Neonatal Encephalopathy with Seizures, NEWS (ATF2)

- Osteochondrodysplasia, Skeletal Dwarfism (SLC13A1, Poodle Variant)

- Progressive Retinal Atrophy, prcd (PRCD Exon 1)

- Von Willebrand Disease Type I, Type I vWD (VWF)

** The information presented above is intended for non-breeding purposes. Please refer to the full Embark genetic test results for comprehensive health and trait information that is relevant for breeding decisions.*

Certificate of Breed

OWNER'S NAME: Matthew Yoder

DOG'S NAME: "6164-Tiger"
Happy Tail's Blazing Tiger

TEST DATE: July 27th, 2023

OWNER SUPPLIED BREED: --

REGISTRATION ORGANIZATION: American Kennel Club (AKC)

REGISTRATION NUMBER: PR24919803

This certifies the authenticity of **6164-Tiger**'s canine genetic background as determined following careful analysis of more than 200,000 genetic markers.

MATERNAL HAPLOTYPE **B84**

PATERNAL HAPLOTYPE **H1a.59**

POODLE

69.3% Poodle (Small)

30.7% Poodle (Standard)

Welcome to the **Embark** family!

Adam Boyko, Ph.D.
CHIEF SCIENCE OFFICER

Ryan Boyko
CHIEF EXECUTIVE OFFICER

Purebred certification is separate from genetic ancestry. Purebred status is defined by pedigrees at registration bodies. Ancestry looks at segments of shared DNA.

“6164-TIGER”

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

BREED ANCESTRY

Poodle (Small) : 69.3%

Poodle (Standard) : 30.7%

GENETIC STATS

Predicted adult weight: **23 lbs**

Life stage: **Young adult**

Based on your dog’s date of birth provided.

TEST DETAILS

Kit number: EM-58258322

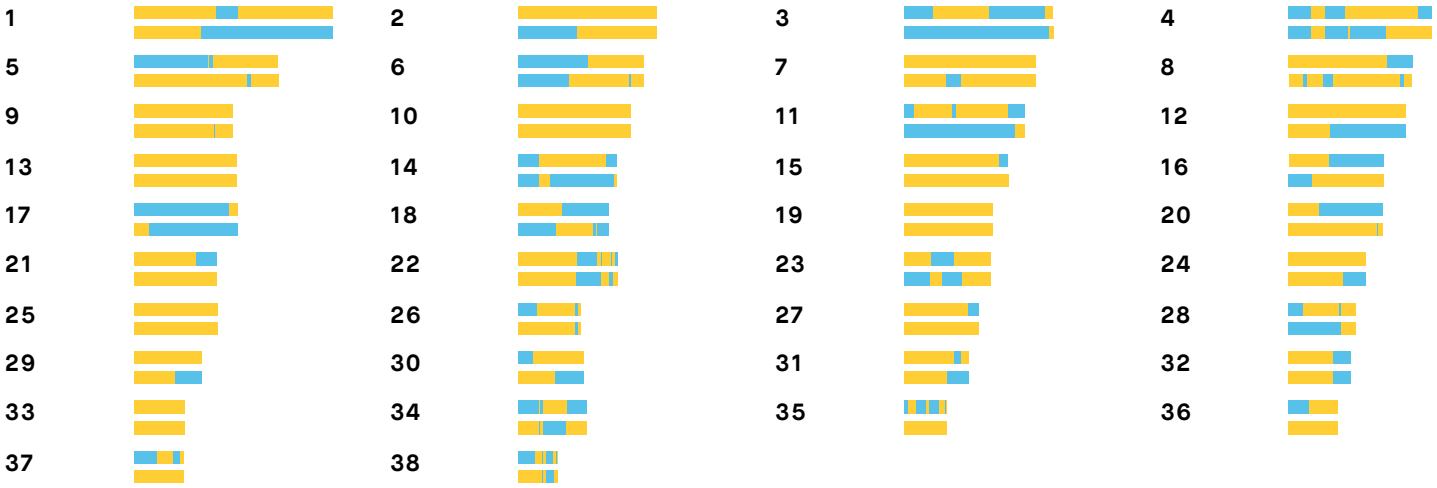
Swab number: 31220612400413

BREED ANCESTRY BY CHROMOSOME

Our advanced test identifies from where 6164-Tiger inherited every part of the chromosome pairs in his genome.

Breed colors:

Poodle (Small) Poodle (Standard)



Registration: American Kennel Club (AKC) PR24919803

“6164-TIGER”

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

POODLE (SMALL)

Miniature and toy poodles are varieties of the poodle breed which originated in Germany in the 15th century. Unlike the larger standard poodle (>15 inches tall), these small poodles were not developed for hunting---except for truffles!---and were generally used as lap dogs and companions. Small poodles are frequently used to create designer dogs like Schnoodles and Maltipoos with low-shedding, hypoallergenic coats. All poodles are highly intelligent and energetic, and need daily exercise and stimulation. They are overall healthy dogs, although heritable eye disease, epilepsy and allergies are relatively common, and toy poodles also have a heightened risk of accidents/trauma due to their small size.

Alternative Names
Toy Poodle, Miniature Poodle

Fun Fact
Although Toy Poodles are the most popular dog breed in Japan, Poodles as a group are the eight most popular breed in the US, with miniature poodles being the most common variety.

“6164-TIGER”

HAPPY TAIL'S BLAZING TIGER

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POODLE (STANDARD)

The Standard Poodle is a popular, water-loving dog used for centuries as a bird dog and popular pet. Poodles were established in Germany by the 15th century. Oddly enough, they are the national dog breed of France, and they were the most popular breed of dog in the United States throughout the 1960s and 70s. They're still quite popular today, owing to their intelligence, trainability, and non-shedding coats. Although well-known for their fancy fur, they’re one of the most intelligent breeds of dog and require a lot of exercise and stimulation.

Fun Fact

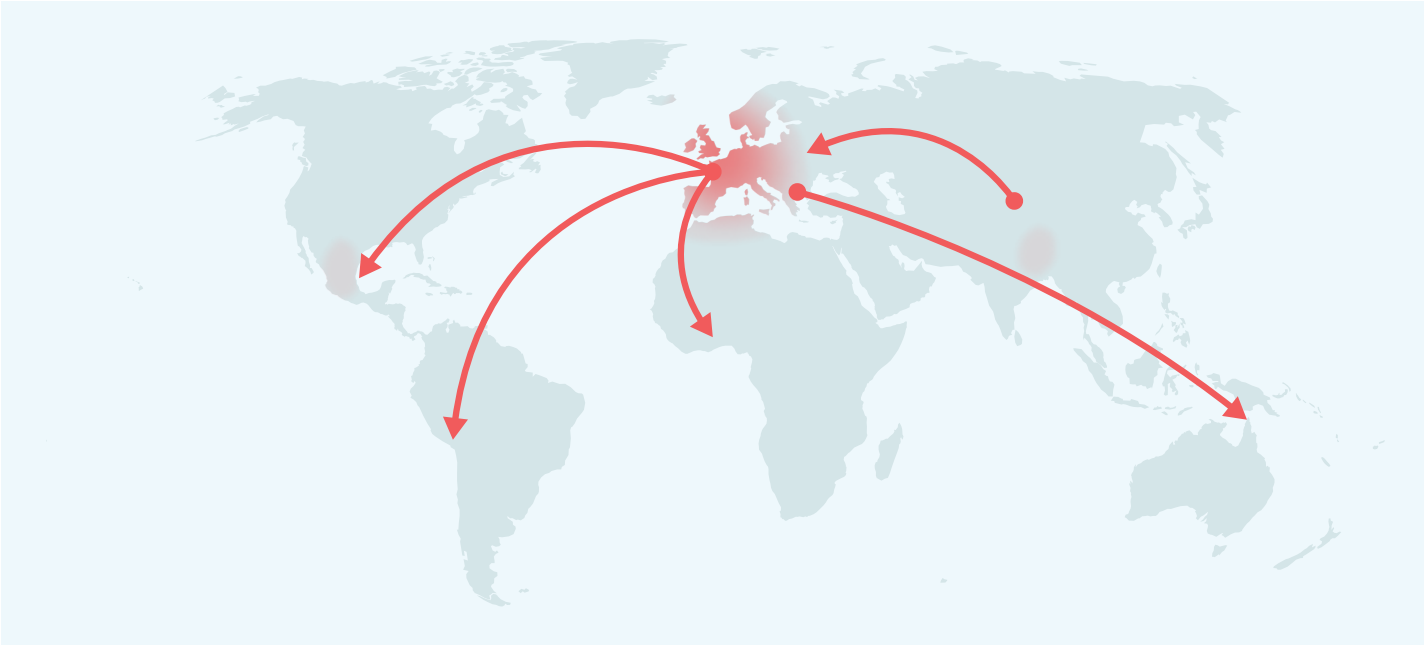
From 1989 to 1991, John Suter raced a team of Poodles in the Iditarod. Although his teams placed in the back half of the pack, he managed to win $2,000 in prize money before retiring his poodle team. The Iditarod has since changed its rules to specify that only northern dog breeds can compete.

"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

MATERNAL LINE



Through 6164-Tiger's mitochondrial DNA we can trace his mother's ancestry back to where dogs and people first became friends. This map helps you visualize the routes that his ancestors took to your home. Their story is described below the map.

HAPLOGROUP: B1

B1 is the second most common maternal lineage in breeds of European or American origin. It is the female line of the majority of Golden Retrievers, Basset Hounds, and Shih Tzus, and about half of Beagles, Pekingese and Toy Poodles. This lineage is also somewhat common among village dogs that carry distinct ancestry from these breeds. We know this is a result of B1 dogs being common amongst the European dogs that their conquering owners brought around the world, because nowhere on earth is it a very common lineage in village dogs. It even enables us to trace the path of (human) colonization: Because most Bichons are B1 and Bichons are popular in Spanish culture, B1 is now fairly common among village dogs in Latin America.

HAPLOTYPE: B84

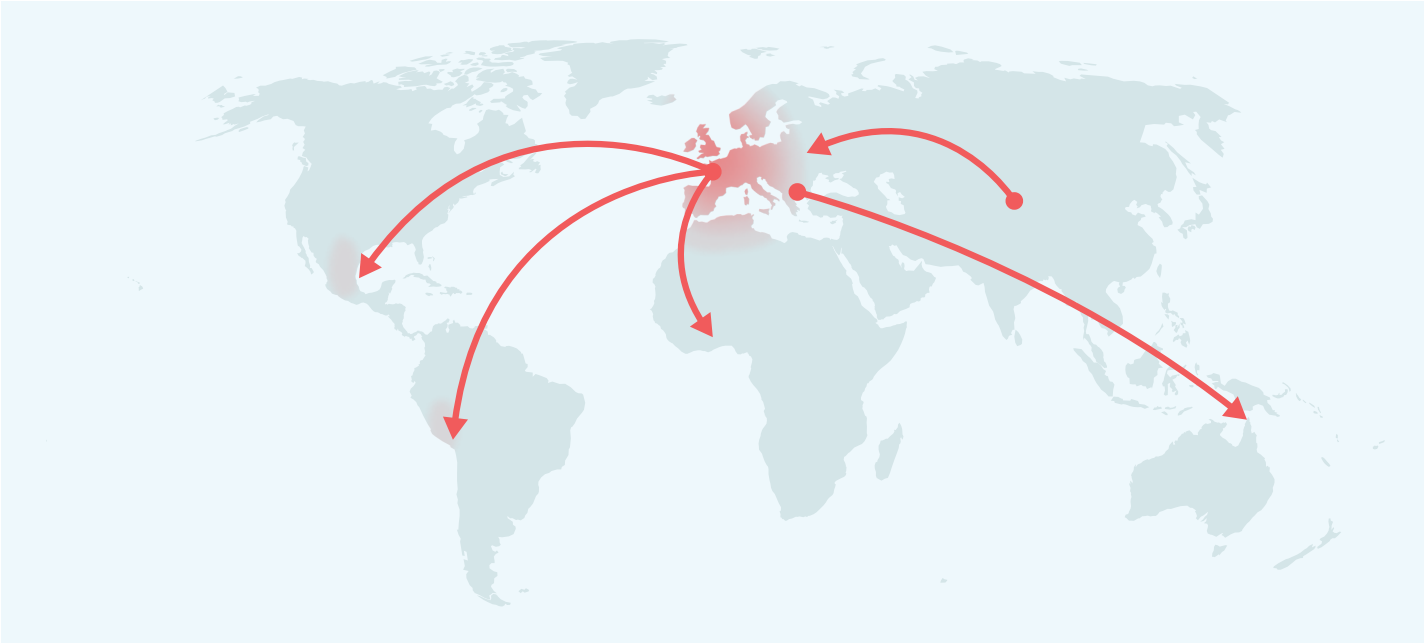
Part of the large B1 haplogroup, this haplotype occurs most frequently in Golden Retrievers, Beagles, and Staffordshire Terriers.

"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

PATERNAL LINE



Through 6164-Tiger's Y chromosome we can trace his father's ancestry back to where dogs and people first became friends. This map helps you visualize the routes that his ancestors took to your home. Their story is described below the map.

HAPLOGROUP: A1a

Some of the wolves that became the original dogs in Central Asia around 15,000 years ago came from this long and distinguished line of male dogs. After domestication, they followed their humans from Asia to Europe and then didn't stop there. They took root in Europe, eventually becoming the dogs that founded the Vizsla breed 1,000 years ago. The Vizsla is a Central European hunting dog, and all male Vizslas descend from this line. During the Age of Exploration, like their owners, these pooches went by the philosophy, "Have sail, will travel!" From the windy plains of Patagonia to the snug and homey towns of the American Midwest, the beaches of a Pacific paradise, and the broad expanse of the Australian outback, these dogs followed their masters to the outposts of empires. Whether through good fortune or superior genetics, dogs from the A1a lineage traveled the globe and took root across the world. Now you find village dogs from this line frolicking on Polynesian beaches, hanging out in villages across the

HAPLOTYPE: H1a.59

Part of the A1a haplogroup, this haplotype occurs most frequently in European village dogs.

“6164-TIGER”

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

TRAITS: COAT COLOR

TRAIT	RESULT
E Locus (MC1R) The E Locus determines if and where a dog can produce dark (black or brown) hair. Dogs with two copies of the recessive **e** allele do not produce dark hairs at all, and will be "red" over their entire body. The shade of red, which can range from a deep copper to yellow/gold to cream, is dependent on other genetic factors including the Intensity loci. In addition to determining if a dog can develop dark hairs at all, the E Locus can give a dog a black "mask" or "widow's peak," unless the dog has overriding coat color genetic factors. Dogs with one or two copies of the **Em** allele usually have a melanistic mask (dark facial hair as commonly seen in the German Shepherd and Pug). Dogs with no copies of **Em** but one or two copies of the **Eg** allele usually have a melanistic "widow's peak" (dark forehead hair as commonly seen in the Afghan Hound and Borzoi, where it is called either "grizzle" or "domino").	**No dark hairs anywhere (ee)**
K Locus (CBD103) The K Locus K^B allele "overrides" the A Locus, meaning that it prevents the A Locus genotype from affecting coat color. For this reason, the K^B allele is referred to as the "dominant black" allele. As a result, dogs with at least one K^B allele will usually have solid black or brown coats (or red/cream coats if they are **ee** at the E Locus) regardless of their genotype at the A Locus, although several other genes could impact the dog's coat and cause other patterns, such as white spotting. Dogs with the k^yk^y genotype will show a coat color pattern based on the genotype they have at the A Locus. Dogs who test as K^Bk^y may be brindle rather than black or brown.	**Not expressed (k^yk^y)**

"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

TRAITS: COAT COLOR (CONTINUED)

TRAIT	RESULT
Intensity Loci LINKAGE Areas of a dog's coat where dark (black or brown) pigment is not expressed either contain red/yellow pigment, or no pigment at all. Five locations across five chromosomes explain approximately 70% of red pigmentation "intensity" variation across all dogs. Dogs with a result of **Intense Red Pigmentation** will likely have deep red hair like an Irish Setter or "apricot" hair like some Poodles, dogs with a result of **Intermediate Red Pigmentation** will likely have tan or yellow hair like a Soft-Coated Wheaten Terrier, and dogs with **Dilute Red Pigmentation** will likely have cream or white hair like a Samoyed. Because the mutations we test may not directly cause differences in red pigmentation intensity, we consider this to be a linkage test.	**Any pigmented hair likely yellow or tan (Intermediate Red Pigmentation)**
A Locus (ASIP) The A Locus controls switching between black and red pigment in hair cells, but it will only be expressed in dogs that are not **ee** at the E Locus and are $\mathbf{k^y k^y}$ at the K Locus. Sable (also called "Fawn") dogs have a mostly or entirely red coat with some interspersed black hairs. Agouti (also called "Wolf Sable") dogs have red hairs with black tips, mostly on their head and back. Black and tan dogs are mostly black or brown with lighter patches on their cheeks, eyebrows, chest, and legs. Recessive black dogs have solid-colored black or brown coats.	**Not expressed ($a^t a^t$)**
D Locus (MLPH) The D locus result that we report is determined by two different genetic variants that can work together to cause diluted pigmentation. These are the common **d** allele, also known as "**d1**", and a less common allele known as "**d2**". Dogs with two **d** alleles, regardless of which variant, will have all black pigment lightened ("diluted") to gray, or brown pigment lightened to lighter brown in their hair, skin, and sometimes eyes. There are many breed-specific names for these dilute colors, such as "blue", "charcoal", "fawn", "silver", and "Isabella". Note that in certain breeds, dilute dogs have a higher incidence of Color Dilution Alopecia. Dogs with one **d** allele will not be dilute, but can pass the **d** allele on to their puppies. To view your dog's **d1** and **d2** test results, click the "SEE DETAILS" link in the upper right hand corner of the "Base Coat Color" section of the Traits page, and then click the "VIEW SUBLOCUS RESULTS" link at the bottom of the page.	**Not expressed (DD)**

"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

TRAITS: COAT COLOR (CONTINUED)

TRAIT	RESULT
Cocoa (HPS3) Dogs with the **coco** genotype will produce dark brown pigment instead of black in both their hair and skin. Dogs with the **Nco** genotype will produce black pigment, but can pass the **co** allele on to their puppies. Dogs that have the **coco** genotype as well as the **bb** genotype at the B locus are generally a lighter brown than dogs that have the **Bb** or **BB** genotypes at the B locus.	**No co alleles, not expressed (NN)**
B Locus (TYRP1) Dogs with two copies of the **b** allele produce brown pigment instead of black in both their hair and skin. Dogs with one copy of the **b** allele will produce black pigment, but can pass the **b** allele on to their puppies. E Locus **ee** dogs that carry two **b** alleles will have red or cream coats, but have brown noses, eye rims, and footpads (sometimes referred to as "Dudley Nose" in Labrador Retrievers). "Liver" or "chocolate" is the preferred color term for brown in most breeds; in the Doberman Pinscher it is referred to as "red".	**Likely black colored nose/feet (Bb)**
Saddle Tan (RALY) The "Saddle Tan" pattern causes the black hairs to recede into a "saddle" shape on the back, leaving a tan face, legs, and belly, as a dog ages. The Saddle Tan pattern is characteristic of breeds like the Corgi, Beagle, and German Shepherd. Dogs that have the **II** genotype at this locus are more likely to be mostly black with tan points on the eyebrows, muzzle, and legs as commonly seen in the Doberman Pinscher and the Rottweiler. This gene modifies the A Locus $\mathbf{a^t}$ allele, so dogs that do not express $\mathbf{a^t}$ are not influenced by this gene.	**Not expressed (II)**
S Locus (MITF) The S Locus determines white spotting and pigment distribution. MITF controls where pigment is produced, and an insertion in the MITF gene causes a loss of pigment in the coat and skin, resulting in white hair and/or pink skin. Dogs with two copies of this variant will likely have breed-dependent white patterning, with a nearly white, parti, or piebald coat. Dogs with one copy of this variant will have more limited white spotting and may be considered flash, parti or piebald. This MITF variant does not explain all white spotting patterns in dogs and other variants are currently being researched. Some dogs may have small amounts of white on the paws, chest, face, or tail regardless of their S Locus genotype.	**Likely flash, parti, piebald, or extreme white (spsp)**

"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

TRAITS: COAT COLOR (CONTINUED)

TRAIT	RESULT
M Locus (PMEL) Merle coat patterning is common to several dog breeds including the Australian Shepherd, Catahoula Leopard Dog, and Shetland Sheepdog, among many others. Merle arises from an unstable SINE insertion (which we term the "M*" allele) that disrupts activity of the pigmentary gene PMEL, leading to mottled or patchy coat color. Dogs with an **M*m** result are likely to be phenotypically merle or could be "non-expressing" merle, meaning that the merle pattern is very subtle or not at all evident in their coat. Dogs with an **M*M*** result are likely to be phenotypically merle or double merle. Dogs with an **mm** result have no merle alleles and are unlikely to have a merle coat pattern. Note that Embark does not currently distinguish between the recently described cryptic, atypical, atypical+, classic, and harlequin merle alleles. Our merle test only detects the presence, but not the length of the SINE insertion. We do not recommend making breeding decisions on this result alone. Please pursue further testing for allelic distinction prior to breeding decisions.	**No merle alleles (mm)**
R Locus (USH2A) LINKAGE The R Locus regulates the presence or absence of the roan coat color pattern. Partial duplication of the USH2A gene is strongly associated with this coat pattern. Dogs with at least one **R** allele will likely have roaning on otherwise uniformly unpigmented white areas. Roan appears in white areas controlled by the S Locus but not in other white or cream areas created by other loci, such as the E Locus with **ee** along with Dilute Red Pigmentation by I Locus (for example, in Samoyeds). Mechanisms for controlling the extent of roaning are currently unknown, and roaning can appear in a uniform or non-uniform pattern. Further, non-uniform roaning may appear as ticked, and not obviously roan. The roan pattern can appear with or without ticking.	**Likely no impact on coat pattern (rr)**
H Locus (Harlequin) This pattern is recognized in Great Danes and causes dogs to have a white coat with patches of darker pigment. A dog with an **Hh** result will be harlequin if they are also **M*m** or **M*M*** at the M Locus and are not **ee** at the E locus. Dogs with a result of **hh** will not be harlequin. This trait is thought to be homozygous lethal; a living dog with an **HH** genotype has never been found.	**No harlequin alleles (hh)**

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TRAITS: OTHER COAT TRAITS

TRAIT	RESULT
Furnishings (RSPO2) LINKAGE Dogs with one or two copies of the **F** allele have "furnishings": the mustache, beard, and eyebrows characteristic of breeds like the Schnauzer, Scottish Terrier, and Wire Haired Dachshund. A dog with two **I** alleles will not have furnishings, which is sometimes called an "improper coat" in breeds where furnishings are part of the breed standard. The mutation is a genetic insertion which we measure indirectly using a linkage test highly correlated with the insertion.	**Likely furnished (mustache, beard, and/or eyebrows) (FF)**
Coat Length (FGF5) The FGF5 gene is known to affect hair length in many different species, including cats, dogs, mice, and humans. In dogs, the **T** allele confers a long, silky haircoat as observed in the Yorkshire Terrier and the Long Haired Whippet. The ancestral **G** allele causes a shorter coat as seen in the Boxer or the American Staffordshire Terrier. In certain breeds (such as Corgi), the long haircoat is described as "fluff."	**Likely long coat (TT)**
Shedding (MC5R) Dogs with at least one copy of the ancestral **C** allele, like many Labradors and German Shepherd Dogs, are heavy or seasonal shedders, while those with two copies of the **T** allele, including many Boxers, Shih Tzus and Chihuahuas, tend to be lighter shedders. Dogs with furnished/wire-haired coats caused by RSPO2 (the furnishings gene) tend to be low shedders regardless of their genotype at this gene.	**Likely light shedding (TT)**
Hairlessness (FOXI3) LINKAGE A duplication in the FOXI3 gene causes hairlessness over most of the body as well as changes in tooth shape and number. This mutation occurs in Peruvian Inca Orchid, Xoloitzcuintli (Mexican Hairless), and Chinese Crested (other hairless breeds have different mutations). Dogs with the **NDup** genotype are likely to be hairless while dogs with the **NN** genotype are likely to have a normal coat. The **DupDup** genotype has never been observed, suggesting that dogs with that genotype cannot survive to birth. Please note that this is a linkage test, so it may not be as predictive as direct tests of the mutation in some lines.	**Very unlikely to be hairless (NN)**
Hairlessness (SGK3) Hairlessness in the American Hairless Terrier arises from a mutation in the SGK3 gene. Dogs with the **DD** result are likely to be hairless. Dogs with the **ND** genotype will have a normal coat, but can pass the **D**	**Very unlikely to be hairless (NN)**

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TRAITS: OTHER COAT TRAITS (CONTINUED)

TRAIT	RESULT
Oculocutaneous Albinism Type 2 (SLC45A2) LINKAGE Dogs with two copies **DD** of this deletion in the SLC45A2 gene have oculocutaneous albinism (OCA), also known as Doberman Z Factor Albinism, a recessive condition characterized by severely reduced or absent pigment in the eyes, skin, and hair. Affected dogs sometimes suffer from vision problems due to lack of eye pigment (which helps direct and absorb ambient light) and are prone to sunburn. Dogs with a single copy of the deletion **ND** will not be affected but can pass the mutation on to their offspring. This particular mutation can be traced back to a single white Doberman Pinscher born in 1976, and it has only been observed in dogs descended from this individual. Please note that this is a linkage test, so it may not be as predictive as direct tests of the mutation in some lines.	**Likely not albino (NN)**
Coat Texture (KRT71) Dogs with a long coat and at least one copy of the **T** allele have a wavy or curly coat characteristic of Poodles and Bichon Frises. Dogs with two copies of the ancestral **C** allele are likely to have a straight coat, but there are other factors that can cause a curly coat, for example if they at least one **F** allele for the Furnishings (RSPO2) gene then they are likely to have a curly coat. Dogs with short coats may carry one or two copies of the **T** allele but still have straight coats.	**Likely curly coat (TT)**

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TRAITS: OTHER BODY FEATURES

TRAIT	RESULT
Muzzle Length (BMP3) Dogs in medium-length muzzle (mesocephalic) breeds like Staffordshire Terriers and Labradors, and long muzzle (dolichocephalic) breeds like Whippet and Collie have one, or more commonly two, copies of the ancestral **C** allele. Dogs in many short-length muzzle (brachycephalic) breeds such as the English Bulldog, Pug, and Pekingese have two copies of the derived **A** allele. At least five different genes affect muzzle length in dogs, with BMP3 being the only one with a known causal mutation. For example, the skull shape of some breeds, including the dolichocephalic Scottish Terrier or the brachycephalic Japanese Chin, appear to be caused by other genes. Thus, dogs may have short or long muzzles due to other genetic factors that are not yet known to science.	**Likely medium or long muzzle (CC)**
Tail Length (T) Whereas most dogs have two **C** alleles and a long tail, dogs with one **G** allele are likely to have a bobtail, which is an unusually short or absent tail. This mutation causes natural bobtail in many breeds including the Pembroke Welsh Corgi, the Australian Shepherd, and the Brittany Spaniel. Dogs with **GG** genotypes have not been observed, suggesting that dogs with the **GG** genotype do not survive to birth. Please note that this mutation does not explain every natural bobtail! While certain lineages of Boston Terrier, English Bulldog, Rottweiler, Miniature Schnauzer, Cavalier King Charles Spaniel, and Parson Russell Terrier, and Dobermans are born with a natural bobtail, these breeds do not have this mutation. This suggests that other unknown genetic mutations can also lead to a natural bobtail.	**Likely normal-length tail (CC)**
Hind Dewclaws (LMBR1) Common in certain breeds such as the Saint Bernard, hind dewclaws are extra, nonfunctional digits located midway between a dog's paw and hock. Dogs with at least one copy of the **T** allele have about a 50% chance of having hind dewclaws. Note that other (currently unknown to science) mutations can also cause hind dewclaws, so some **CC** or **TC** dogs will have hind dewclaws.	**Unlikely to have hind dew claws (CC)**

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TRAITS: OTHER BODY FEATURES (CONTINUED)

TRAIT	RESULT
Blue Eye Color (ALX4) LINKAGE Embark researchers discovered this large duplication associated with blue eyes in Arctic breeds like Siberian Husky as well as tri-colored (non-merle) Australian Shepherds. Dogs with at least one copy of the duplication (**Dup**) are more likely to have at least one blue eye. Some dogs with the duplication may have only one blue eye (complete heterochromia) or may not have blue eyes at all; nevertheless, they can still pass the duplication and the trait to their offspring. **NN** dogs do not carry this duplication, but may have blue eyes due to other factors, such as merle. Please note that this is a linkage test, so it may not be as predictive as direct tests of the mutation in some lines.	**Less likely to have blue eyes (NN)**
Back Muscling & Bulk, Large Breed (ACSL4) The **T** allele is associated with heavy muscling along the back and trunk in characteristically "bulky" large-breed dogs including the Saint Bernard, Bernese Mountain Dog, Greater Swiss Mountain Dog, and Rottweiler. The "bulky" **T** allele is absent from leaner shaped large breed dogs like the Great Dane, Irish Wolfhound, and Scottish Deerhound, which are fixed for the ancestral **C** allele. Note that this mutation does not seem to affect muscling in small or even mid-sized dog breeds with notable back muscling, including the American Staffordshire Terrier, Boston Terrier, and the English Bulldog.	**Likely normal muscling (CC)**

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TRAITS: BODY SIZE

TRAIT	RESULT
Body Size (IGF1) The **I** allele is associated with smaller body size.	**Smaller (II)**
Body Size (IGFR1) The **A** allele is associated with smaller body size.	**Larger (GG)**
Body Size (STC2) The **A** allele is associated with smaller body size.	**Larger (TT)**
Body Size (GHR - E191K) The **A** allele is associated with smaller body size.	**Smaller (AA)**
Body Size (GHR - P177L) The **T** allele is associated with smaller body size.	**Larger (CC)**

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TRAITS: PERFORMANCE

TRAIT	RESULT
Altitude Adaptation (EPAS1) This mutation causes dogs to be especially tolerant of low oxygen environments (hypoxia), such as those found at high elevations. Dogs with at least one **A** allele are less susceptible to "altitude sickness." This mutation was originally identified in breeds from high altitude areas such as the Tibetan Mastiff.	**Normal altitude tolerance (GG)**
Appetite (POMC) LINKAGE This mutation in the POMC gene is found primarily in Labrador and Flat Coated Retrievers. Compared to dogs with no copies of the mutation (**NN**), dogs with one (**ND**) or two (**DD**) copies of the mutation are more likely to have high food motivation, which can cause them to eat excessively, have higher body fat percentage, and be more prone to obesity. Read more about the genetics of POMC, and learn how you can contribute to research, in our blog post (https://embarkvet.com/resources/blog/pomc-dogs/). We measure this result using a linkage test.	**Normal food motivation (NN)**

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HEALTH REPORT

How to interpret 6164-Tiger’s genetic health results:

If 6164-Tiger inherited any of the variants that we tested, they will be listed at the top of the Health Report section, along with a description of how to interpret this result. We also include all of the variants that we tested 6164-Tiger for that we did not detect the risk variant for.

A genetic test is not a diagnosis

This genetic test does not diagnose a disease. Please talk to your vet about your dog’s genetic results, or if you think that your pet may have a health condition or disease.

Summary

Of the 256 genetic health risks we analyzed, we found 2 results that you should learn about.

Notable results (2)

ALT Activity

Methemoglobinemia

Clear results

Breed-relevant (7)

Other (246)

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BREED-RELEVANT RESULTS

Research studies indicate that these results are more relevant to dogs like 6164-Tiger, and may influence his chances of developing certain health conditions.

Degenerative Myelopathy, DM (SOD1A)	Clear
GM2 Gangliosidosis (HEXB, Poodle Variant)	Clear
Intervertebral Disc Disease (Type I) (FGF4 retrogene - CFA12)	Clear
Neonatal Encephalopathy with Seizures, NEWS (ATF2)	Clear
Osteochondrodysplasia (SLC13A1, Poodle Variant)	Clear
Progressive Retinal Atrophy, prcd (PRCD Exon 1)	Clear
Von Willebrand Disease Type I, Type I vWD (VWF)	Clear

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OTHER RESULTS

Research has not yet linked these conditions to dogs with similar breeds to 6164-Tiger. Review any increased risk or notable results to understand his potential risk and recommendations.

ALT Activity (GPT)	Notable
Methemoglobinemia (CYB5R3)	Notable
2-DHA Kidney & Bladder Stones (APRT)	Clear
Acral Mutilation Syndrome (GDNF-AS, Spaniel and Pointer Variant)	Clear
Alaskan Husky Encephalopathy (SLC19A3)	Clear
Alaskan Malamute Polyneuropathy, AMPN (NDRG1 SNP)	Clear
Alexander Disease (GFAP)	Clear
Anhidrotic Ectodermal Dysplasia (EDA Intron 8)	Clear
Autosomal Dominant Progressive Retinal Atrophy (RHO)	Clear
Bald Thigh Syndrome (IGFBP5)	Clear
Bernard-Soulier Syndrome, BSS (GP9, Cocker Spaniel Variant)	Clear
Bully Whippet Syndrome (MSTN)	Clear
Canine Elliptocytosis (SPTB Exon 30)	Clear
Canine Fucosidosis (FUCA1)	Clear
Canine Leukocyte Adhesion Deficiency Type I, CLAD I (ITGB2, Setter Variant)	Clear
Canine Leukocyte Adhesion Deficiency Type III, CLAD III (FERMT3, German Shepherd Variant)	Clear
Canine Multifocal Retinopathy, cmr1 (BEST1 Exon 2)	Clear
Canine Multifocal Retinopathy, cmr2 (BEST1 Exon 5, Coton de Tulear Variant)	Clear

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OTHER RESULTS

Canine Multifocal Retinopathy, cmr3 (BEST1 Exon 10 Deletion, Finnish and Swedish Lapphund, Lapponian Herder Variant)	Clear
Canine Multiple System Degeneration (SERAC1 Exon 4, Chinese Crested Variant)	Clear
Canine Multiple System Degeneration (SERAC1 Exon 15, Kerry Blue Terrier Variant)	Clear
Cardiomyopathy and Juvenile Mortality (YARS2)	Clear
Centronuclear Myopathy, CNM (PTPLA)	Clear
Cerebellar Hypoplasia (VLDLR, Eurasier Variant)	Clear
Chondrodystrophy (ITGA10, Norwegian Elkhound and Karelian Bear Dog Variant)	Clear
Cleft Lip and/or Cleft Palate (ADAMTS20, Nova Scotia Duck Tolling Retriever Variant)	Clear
Cleft Palate, CP1 (DLX6 intron 2, Nova Scotia Duck Tolling Retriever Variant)	Clear
Cobalamin Malabsorption (CUBN Exon 8, Beagle Variant)	Clear
Cobalamin Malabsorption (CUBN Exon 53, Border Collie Variant)	Clear
Collie Eye Anomaly (NHEJ1)	Clear
Complement 3 Deficiency, C3 Deficiency (C3)	Clear
Congenital Cornification Disorder (NSDHL, Chihuahua Variant)	Clear
Congenital Hypothyroidism (TPO, Rat, Toy, Hairless Terrier Variant)	Clear
Congenital Hypothyroidism (TPO, Tenterfield Terrier Variant)	Clear
Congenital Hypothyroidism with Goiter (TPO Intron 13, French Bulldog Variant)	Clear
Congenital Hypothyroidism with Goiter (SLC5A5, Shih Tzu Variant)	Clear

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OTHER RESULTS

Congenital Macrothrombocytopenia (TUBB1 Exon 1, Cairn and Norfolk Terrier Variant)	Clear
Congenital Myasthenic Syndrome, CMS (COLQ, Labrador Retriever Variant)	Clear
Congenital Myasthenic Syndrome, CMS (COLQ, Golden Retriever Variant)	Clear
Congenital Myasthenic Syndrome, CMS (CHAT, Old Danish Pointing Dog Variant)	Clear
Congenital Myasthenic Syndrome, CMS (CHRNE, Jack Russell Terrier Variant)	Clear
Congenital Stationary Night Blindness (LRIT3, Beagle Variant)	Clear
Congenital Stationary Night Blindness (RPE65, Briard Variant)	Clear
Craniomandibular Osteopathy, CMO (SLC37A2)	Clear
Craniomandibular Osteopathy, CMO (SLC37A2 Intron 16, Basset Hound Variant)	Clear
Cystinuria Type I-A (SLC3A1, Newfoundland Variant)	Clear
Cystinuria Type II-A (SLC3A1, Australian Cattle Dog Variant)	Clear
Cystinuria Type II-B (SLC7A9, Miniature Pinscher Variant)	Clear
Day Blindness (CNGB3 Deletion, Alaskan Malamute Variant)	Clear
Day Blindness (CNGA3 Exon 7, German Shepherd Variant)	Clear
Day Blindness (CNGA3 Exon 7, Labrador Retriever Variant)	Clear
Day Blindness (CNGB3 Exon 6, German Shorthaired Pointer Variant)	Clear
Deafness and Vestibular Syndrome of Dobermans, DVDob, DINGS (MYO7A)	Clear
Demyelinating Polyneuropathy (SBF2/MTRM13)	Clear

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OTHER RESULTS

Dental-Skeletal-Retinal Anomaly (MIA3, Cane Corso Variant)	Clear
Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis (INPP5E Intron 9, Norwich Terrier Variant)	Clear
Dilated Cardiomyopathy, DCM (RBM20, Schnauzer Variant)	Clear
Dilated Cardiomyopathy, DCM1 (PDK4, Doberman Pinscher Variant 1)	Clear
Dilated Cardiomyopathy, DCM2 (TTN, Doberman Pinscher Variant 2)	Clear
Disproportionate Dwarfism (PRKG2, Dogo Argentino Variant)	Clear
Dry Eye Curly Coat Syndrome (FAM83H Exon 5)	Clear
Dystrophic Epidermolysis Bullosa (COL7A1, Central Asian Shepherd Dog Variant)	Clear
Dystrophic Epidermolysis Bullosa (COL7A1, Golden Retriever Variant)	Clear
Early Bilateral Deafness (LOXHD1 Exon 38, Rottweiler Variant)	Clear
Early Onset Adult Deafness, EOAD (EPS8L2 Deletion, Rhodesian Ridgeback Variant)	Clear
Early Onset Cerebellar Ataxia (SEL1L, Finnish Hound Variant)	Clear
Ehlers Danlos (ADAMTS2, Doberman Pinscher Variant)	Clear
Enamel Hypoplasia (ENAM Deletion, Italian Greyhound Variant)	Clear
Enamel Hypoplasia (ENAM SNP, Parson Russell Terrier Variant)	Clear
Episodic Falling Syndrome (BCAN)	Clear
Exercise-Induced Collapse, EIC (DNM1)	Clear
Factor VII Deficiency (F7 Exon 5)	Clear

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Factor XI Deficiency (F11 Exon 7, Kerry Blue Terrier Variant)	Clear
Familial Nephropathy (COL4A4 Exon 3, Cocker Spaniel Variant)	Clear
Familial Nephropathy (COL4A4 Exon 30, English Springer Spaniel Variant)	Clear
Fanconi Syndrome (FAN1, Basenji Variant)	Clear
Fetal-Onset Neonatal Neuroaxonal Dystrophy (MFN2, Giant Schnauzer Variant)	Clear
Glanzmann's Thrombasthenia Type I (ITGA2B Exon 13, Great Pyrenees Variant)	Clear
Glanzmann's Thrombasthenia Type I (ITGA2B Exon 12, Otterhound Variant)	Clear
Globoid Cell Leukodystrophy, Krabbe disease (GALC Exon 5, Terrier Variant)	Clear
Glycogen Storage Disease Type IA, Von Gierke Disease, GSD IA (G6PC, Maltese Variant)	Clear
Glycogen Storage Disease Type IIIA, GSD IIIA (AGL, Curly Coated Retriever Variant)	Clear
Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM, Whippet and English Springer Spaniel Variant)	Clear
Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM, Wachtelhund Variant)	Clear
GM1 Gangliosidosis (GLB1 Exon 2, Portuguese Water Dog Variant)	Clear
GM1 Gangliosidosis (GLB1 Exon 15, Shiba Inu Variant)	Clear
GM1 Gangliosidosis (GLB1 Exon 15, Alaskan Husky Variant)	Clear
GM2 Gangliosidosis (HEXA, Japanese Chin Variant)	Clear
Golden Retriever Progressive Retinal Atrophy 1, GR-PRA1 (SLC4A3)	Clear
Golden Retriever Progressive Retinal Atrophy 2, GR-PRA2 (TTC8)	Clear

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Goniodysgenesis and Glaucoma, Pectinate Ligament Dysplasia, PLD (OLFM3)	Clear
Hemophilia A (F8 Exon 11, German Shepherd Variant 1)	Clear
Hemophilia A (F8 Exon 1, German Shepherd Variant 2)	Clear
Hemophilia A (F8 Exon 10, Boxer Variant)	Clear
Hemophilia B (F9 Exon 7, Terrier Variant)	Clear
Hemophilia B (F9 Exon 7, Rhodesian Ridgeback Variant)	Clear
Hereditary Ataxia, Cerebellar Degeneration (RAB24, Old English Sheepdog and Gordon Setter Variant)	Clear
Hereditary Cataracts (HSF4 Exon 9, Australian Shepherd Variant)	Clear
Hereditary Footpad Hyperkeratosis (FAM83G, Terrier and Kromfohrlander Variant)	Clear
Hereditary Footpad Hyperkeratosis (DSG1, Rottweiler Variant)	Clear
Hereditary Nasal Parakeratosis (SUV39H2 Intron 4, Greyhound Variant)	Clear
Hereditary Nasal Parakeratosis, HNPK (SUV39H2)	Clear
Hereditary Vitamin D-Resistant Rickets (VDR)	Clear
Hypocatalasia, Acatalasemia (CAT)	Clear
Hypomyelination and Tremors (FNIP2, Weimaraner Variant)	Clear
Hypophosphatasia (ALPL Exon 9, Karelian Bear Dog Variant)	Clear
Ichthyosis (NIPAL4, American Bulldog Variant)	Clear
Ichthyosis (ASPRV1 Exon 2, German Shepherd Variant)	Clear

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OTHER RESULTS

Ichthyosis (SLC27A4, Great Dane Variant)	Clear
Ichthyosis, Epidermolytic Hyperkeratosis (KRT10, Terrier Variant)	Clear
Ichthyosis, ICH1 (PNPLA1, Golden Retriever Variant)	Clear
Inflammatory Myopathy (SLC25A12)	Clear
Inherited Myopathy of Great Danes (BIN1)	Clear
Inherited Selected Cobalamin Malabsorption with Proteinuria (CUBN, Komondor Variant)	Clear
Intestinal Lipid Malabsorption (ACSL5, Australian Kelpie)	Clear
Junctional Epidermolysis Bullosa (LAMA3 Exon 66, Australian Cattle Dog Variant)	Clear
Junctional Epidermolysis Bullosa (LAMB3 Exon 11, Australian Shepherd Variant)	Clear
Juvenile Epilepsy (LGI2)	Clear
Juvenile Laryngeal Paralysis and Polyneuropathy (RAB3GAP1, Rottweiler Variant)	Clear
Juvenile Myoclonic Epilepsy (DIRAS1)	Clear
L-2-Hydroxyglutaricaciduria, L2HGA (L2HGDH, Staffordshire Bull Terrier Variant)	Clear
Lagotto Storage Disease (ATG4D)	Clear
Laryngeal Paralysis (RAPGEF6, Miniature Bull Terrier Variant)	Clear
Late Onset Spinocerebellar Ataxia (CAPN1)	Clear
Late-Onset Neuronal Ceroid Lipofuscinosis, NCL 12 (ATP13A2, Australian Cattle Dog Variant)	Clear
Leonberger Polyneuropathy 1 (LPN1, ARHGEF10)	Clear

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OTHER RESULTS

Leonberger Polyneuropathy 2 (GJA9)	Clear
Lethal Acrodermatitis, LAD (MKLN1)	Clear
Leukodystrophy (TSEN54 Exon 5, Standard Schnauzer Variant)	Clear
Ligneous Membranitis, LM (PLG)	Clear
Limb Girdle Muscular Dystrophy (SGCD, Boston Terrier Variant)	Clear
Limb-Girdle Muscular Dystrophy 2D (SGCA Exon 3, Miniature Dachshund Variant)	Clear
Long QT Syndrome (KCNQ1)	Clear
Lundehund Syndrome (LEPREL1)	Clear
Macular Corneal Dystrophy, MCD (CHST6)	Clear
Malignant Hyperthermia (RYR1)	Clear
May-Hegglin Anomaly (MYH9)	Clear
Methemoglobinemia (CYB5R3, Pit Bull Terrier Variant)	Clear
Microphthalmia (RBP4 Exon 2, Soft Coated Wheaten Terrier Variant)	Clear
Mucopolysaccharidosis IIIB, Sanfilippo Syndrome Type B, MPS IIIB (NAGLU, Schipperke Variant)	Clear
Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, Dachshund Variant)	Clear
Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, New Zealand Huntaway Variant)	Clear
Mucopolysaccharidosis Type VI, Maroteaux-Lamy Syndrome, MPS VI (ARSB Exon 5, Miniature Pinscher Variant)	Clear
Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 3, German Shepherd Variant)	Clear

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OTHER RESULTS

Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 5, Terrier Brasileiro Variant)	Clear
Multiple Drug Sensitivity (ABCB1)	Clear
Muscular Dystrophy (DMD, Cavalier King Charles Spaniel Variant 1)	Clear
Muscular Dystrophy (DMD, Golden Retriever Variant)	Clear
Musladin-Lueke Syndrome, MLS (ADAMTSL2)	Clear
Myasthenia Gravis-Like Syndrome (CHRNE, Heideterrier Variant)	Clear
Myotonia Congenita (CLCN1 Exon 23, Australian Cattle Dog Variant)	Clear
Myotonia Congenita (CLCN1 Exon 7, Miniature Schnauzer Variant)	Clear
Narcolepsy (HCRTR2 Exon 1, Dachshund Variant)	Clear
Narcolepsy (HCRTR2 Intron 4, Doberman Pinscher Variant)	Clear
Narcolepsy (HCRTR2 Intron 6, Labrador Retriever Variant)	Clear
Nemaline Myopathy (NEB, American Bulldog Variant)	Clear
Neonatal Cerebellar Cortical Degeneration (SPTBN2, Beagle Variant)	Clear
Neonatal Interstitial Lung Disease (LAMP3)	Clear
Neuroaxonal Dystrophy, NAD (VPS11, Rottweiler Variant)	Clear
Neuroaxonal Dystrophy, NAD (TECPR2, Spanish Water Dog Variant)	Clear
Neuronal Ceroid Lipofuscinosis 1, NCL 1 (PPT1 Exon 8, Dachshund Variant 1)	Clear
Neuronal Ceroid Lipofuscinosis 10, NCL 10 (CTSD Exon 5, American Bulldog Variant)	Clear

Registration: American Kennel Club (AKC)
PR24919803

"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

OTHER RESULTS

Neuronal Ceroid Lipofuscinosis 2, NCL 2 (TPP1 Exon 4, Dachshund Variant 2)	Clear
Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 SNP, Border Collie Variant)	Clear
Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 Deletion, Golden Retriever Variant)	Clear
Neuronal Ceroid Lipofuscinosis 6, NCL 6 (CLN6 Exon 7, Australian Shepherd Variant)	Clear
Neuronal Ceroid Lipofuscinosis 7, NCL 7 (MFSD8, Chihuahua and Chinese Crested Variant)	Clear
Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8, Australian Shepherd Variant)	Clear
Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 Exon 2, English Setter Variant)	Clear
Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 Insertion, Saluki Variant)	Clear
Neuronal Ceroid Lipofuscinosis, Cerebellar Ataxia, NCL4A (ARSG Exon 2, American Staffordshire Terrier Variant)	Clear
Oculocutaneous Albinism, OCA (SLC45A2 Exon 6, Bullmastiff Variant)	Clear
Oculocutaneous Albinism, OCA (SLC45A2, Small Breed Variant)	Clear
Oculoskeletal Dysplasia 2 (COL9A2, Samoyed Variant)	Clear
Osteogenesis Imperfecta (COL1A2, Beagle Variant)	Clear
Osteogenesis Imperfecta (SERPINH1, Dachshund Variant)	Clear
Osteogenesis Imperfecta (COL1A1, Golden Retriever Variant)	Clear
P2Y12 Receptor Platelet Disorder (P2Y12)	Clear
Pachyonychia Congenita (KRT16, Dogue de Bordeaux Variant)	Clear
Paroxysmal Dyskinesia, PxD (PIGN)	Clear

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OTHER RESULTS

Persistent Mullerian Duct Syndrome, PMDS (AMHR2)	Clear
Pituitary Dwarfism (POU1F1 Intron 4, Karelian Bear Dog Variant)	Clear
Platelet Factor X Receptor Deficiency, Scott Syndrome (TMEM16F)	Clear
Polycystic Kidney Disease, PKD (PKD1)	Clear
Pompe's Disease (GAA, Finnish and Swedish Lapphund, Lapponian Herder Variant)	Clear
Prekallikrein Deficiency (KLKB1 Exon 8)	Clear
Primary Ciliary Dyskinesia, PCD (NME5, Alaskan Malamute Variant)	Clear
Primary Ciliary Dyskinesia, PCD (CCDC39 Exon 3, Old English Sheepdog Variant)	Clear
Primary Hyperoxaluria (AGXT)	Clear
Primary Lens Luxation (ADAMTS17)	Clear
Primary Open Angle Glaucoma (ADAMTS17 Exon 11, Basset Fauve de Bretagne Variant)	Clear
Primary Open Angle Glaucoma (ADAMTS10 Exon 17, Beagle Variant)	Clear
Primary Open Angle Glaucoma (ADAMTS10 Exon 9, Norwegian Elkhound Variant)	Clear
Primary Open Angle Glaucoma and Primary Lens Luxation (ADAMTS17 Exon 2, Chinese Shar-Pei Variant)	Clear
Progressive Retinal Atrophy (SAG)	Clear
Progressive Retinal Atrophy (IFT122 Exon 26, Lapponian Herder Variant)	Clear
Progressive Retinal Atrophy, Bardet-Biedl Syndrome (BBS2 Exon 11, Shetland Sheepdog Variant)	Clear
Progressive Retinal Atrophy, CNGA (CNGA1 Exon 9)	Clear

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OTHER RESULTS

Progressive Retinal Atrophy, crd1 (PDE6B, American Staffordshire Terrier Variant)	Clear
Progressive Retinal Atrophy, crd4/cord1 (RPGRIP1)	Clear
Progressive Retinal Atrophy, PRA1 (CNGB1)	Clear
Progressive Retinal Atrophy, PRA3 (FAM161A)	Clear
Progressive Retinal Atrophy, rcd1 (PDE6B Exon 21, Irish Setter Variant)	Clear
Progressive Retinal Atrophy, rcd3 (PDE6A)	Clear
Proportionate Dwarfism (GH1 Exon 5, Chihuahua Variant)	Clear
Protein Losing Nephropathy, PLN (NPHS1)	Clear
Pyruvate Dehydrogenase Deficiency (PDP1, Spaniel Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 5, Basenji Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 7, Beagle Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 10, Terrier Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 7, Labrador Retriever Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 7, Pug Variant)	Clear
Raine Syndrome (FAM20C)	Clear
Recurrent Inflammatory Pulmonary Disease, RIPD (AKNA, Rough Collie Variant)	Clear
Renal Cystadenocarcinoma and Nodular Dermatofibrosis (FLCN Exon 7)	Clear
Retina Dysplasia and/or Optic Nerve Hypoplasia (SIX6 Exon 1, Golden Retriever Variant)	Clear

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"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

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OTHER RESULTS

Sensory Neuropathy (FAM134B, Border Collie Variant)	Clear
Severe Combined Immunodeficiency, SCID (PRKDC, Terrier Variant)	Clear
Severe Combined Immunodeficiency, SCID (RAG1, Wetterhoun Variant)	Clear
Shaking Puppy Syndrome (PLP1, English Springer Spaniel Variant)	Clear
Shar-Pei Autoinflammatory Disease, SPAID, Shar-Pei Fever (MTBP)	Clear
Skeletal Dysplasia 2, SD2 (COL11A2, Labrador Retriever Variant)	Clear
Skin Fragility Syndrome (PKP1, Chesapeake Bay Retriever Variant)	Clear
Spinocerebellar Ataxia (SCN8A, Alpine Dachsbracke Variant)	Clear
Spinocerebellar Ataxia with Myokymia and/or Seizures (KCNJ10)	Clear
Spongy Degeneration with Cerebellar Ataxia 1 (KCNJ10)	Clear
Spongy Degeneration with Cerebellar Ataxia 2 (ATP1B2)	Clear
Stargardt Disease (ABCA4 Exon 28, Labrador Retriever Variant)	Clear
Succinic Semialdehyde Dehydrogenase Deficiency (ALDH5A1 Exon 7, Saluki Variant)	Clear
Thrombopathia (RASGRP1 Exon 5, American Eskimo Dog Variant)	Clear
Thrombopathia (RASGRP1 Exon 5, Basset Hound Variant)	Clear
Thrombopathia (RASGRP1 Exon 8, Landseer Variant)	Clear
Trapped Neutrophil Syndrome, TNS (VPS13B)	Clear
Ullrich-like Congenital Muscular Dystrophy (COL6A3 Exon 10, Labrador Retriever Variant)	Clear

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"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

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OTHER RESULTS

Ullrich-like Congenital Muscular Dystrophy (COL6A1 Exon 3, Landseer Variant)	Clear
Unilateral Deafness and Vestibular Syndrome (PTPRQ Exon 39, Doberman Pinscher)	Clear
Urate Kidney & Bladder Stones (SLC2A9)	Clear
Von Willebrand Disease Type II, Type II vWD (VWF, Pointer Variant)	Clear
Von Willebrand Disease Type III, Type III vWD (VWF Exon 4, Terrier Variant)	Clear
Von Willebrand Disease Type III, Type III vWD (VWF Intron 16, Nederlandse Kooikerhondje Variant)	Clear
Von Willebrand Disease Type III, Type III vWD (VWF Exon 7, Shetland Sheepdog Variant)	Clear
X-Linked Hereditary Nephropathy, XLHN (COL4A5 Exon 35, Samoyed Variant 2)	Clear
X-Linked Myotubular Myopathy (MTM1, Labrador Retriever Variant)	Clear
X-Linked Progressive Retinal Atrophy 1, XL-PRA1 (RPGR)	Clear
X-linked Severe Combined Immunodeficiency, X-SCID (IL2RG Exon 1, Basset Hound Variant)	Clear
X-linked Severe Combined Immunodeficiency, X-SCID (IL2RG, Corgi Variant)	Clear
Xanthine Urolithiasis (XDH, Mixed Breed Variant)	Clear
β-Mannosidosis (MANBA Exon 16, Mixed-Breed Variant)	Clear
Mast Cell Tumor	No result

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“6164-TIGER”

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

HEALTH REPORT

Notable result

ALT Activity

Happy Tail's Blazing Tiger inherited both copies of the variant we tested for Alanine Aminotransferase Activity

Why is this important to your vet?
6164-Tiger has two copies of a variant in the GPT gene and is likely to have a lower than average baseline ALT activity. ALT is a commonly used measure of liver health on routine veterinary blood chemistry panels. As such, your veterinarian may want to watch for changes in 6164-Tiger's ALT activity above their current, healthy, ALT activity. As an increase above 6164-Tiger’s baseline ALT activity could be evidence of liver damage, even if it is within normal limits by standard ALT reference ranges.

What is Alanine Aminotransferase Activity?
Alanine aminotransferase (ALT) is a clinical tool that can be used by veterinarians to better monitor liver health. This result is not associated with liver disease. ALT is one of several values veterinarians measure on routine blood work to evaluate the liver. It is a naturally occurring enzyme located in liver cells that helps break down protein. When the liver is damaged or inflamed, ALT is released into the bloodstream.

How vets diagnose this condition
Genetic testing is the only way to provide your veterinarian with this clinical tool.

How this condition is treated
Veterinarians may recommend blood work to establish a baseline ALT value for healthy dogs with one or two copies of this variant.

"6164-TIGER"

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

HEALTH REPORT

Notable result

Methemoglobinemia

Happy Tail's Blazing Tiger inherited one copy of the variant we tested for Methemoglobinemia

What does this result mean?
Because this variant is inherited in an autosomal recessive manner (meaning dogs need two copies of the variant to develop the disease), 6164-Tiger is unlikely to develop this condition due to the variant.

Impact on Breeding
Your dog carries this variant and will pass it on to ~50% of his offspring. You can email breeders@embarkvet.com to discuss with a genetic counselor how the genotype results should be applied to a breeding program.

What is Methemoglobinemia?
Oxygen is carried in the blood by hemoglobin. Methemoglobin forms when hemoglobin iron is oxidized, and it cannot carry oxygen in the blood. Methemoglobinemia is a disease where too much methemoglobin is present and the body no longer has the oxygen supply it needs to function. This disease was first described in a mixed breed dog.

When signs & symptoms develop in affected dogs
Signs often first appear with a concurrent disease, such as a respiratory infection, that causes affected dogs to decompensate.

How vets diagnose this condition
Genetic and laboratory testing can be used to diagnose this condition. Please note that there are also toxins that can cause this condition.

How this condition is treated
Methylene blue can be administered to control the clinical signs, however, this is not a cure and is a long term therapy. Treatment of concurrent infections or inflammation is also recommended.

Actions to take if your dog is affected

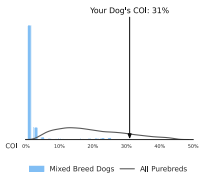
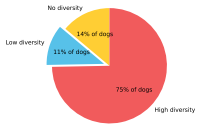
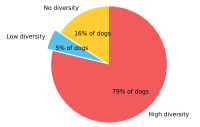
- Please see your veterinarian as soon as possible if you suspect a respiratory infection or any other breathing difficulties as these can become life threatening if not addressed.

“6164-TIGER”

HAPPY TAIL'S BLAZING TIGER

DNA Test Report | Test Date: July 27th, 2023 | embk.me/happytailsblazingtiger

INBREEDING AND DIVERSITY

CATEGORY	RESULT
Coefficient Of Inbreeding Our genetic COI measures the proportion of your dog's genome where the genes on the mother’s side are identical by descent to those on the father’s side.	**31%** 
MHC Class II - DLA DRB1 A Dog Leukocyte Antigen (DLA) gene, DRB1 encodes a major histocompatibility complex (MHC) protein involved in the immune response. Some studies have shown associations between certain DRB1 haplotypes and autoimmune diseases such as Addison's disease (hypoadrenocorticism) in certain dog breeds, but these findings have yet to be scientifically validated.	**Low Diversity** How common is this amount of diversity in mixed breed dogs: 
MHC Class II - DLA DQA1 and DQB1 DQA1 and DQB1 are two tightly linked DLA genes that code for MHC proteins involved in the immune response. A number of studies have shown correlations of DQA-DQB1 haplotypes and certain autoimmune diseases; however, these have not yet been scientifically validated.	**Low Diversity** How common is this amount of diversity in mixed breed dogs: 

Animal Disease Diagnostic Laboratory
8995 East Main Street
Reynoldsburg OH 43068
Phone: (614) 728-6220 Fax: (614) 728-6310

Report Date: 11/16/2022

Final Report

Date Received: 11/14/2022
Collection Date: 11/7/2022

Case Coordinator: Melanie Prarat

Accession No: B2227088

WALNUT CREEK VETERINARY CLINIC
BOX 99
WALNUT CREEK OH 44687

Phone: (330) 763-0698
Email: wcv.results@gmail.com

Associated Parties

Vet Practice	Walnut Creek Veterinary Clinic	
Owner Premise	Happy Tail Pets	
CC	Ann Wyant	
Veterinarian	Joseph Varga	Vet Code:7723
Vet Practice	Mt Hope Vet Services	
CC	Dennis Summers	
CC	Melissa Simmerman	
CC	Heidi Allen	

Lab Findings

Animal Disease Diagnostic Laboratory
8995 East Main Street
Reynoldsburg OH 43068
Phone: (614) 728-6220 Fax: (614) 728-6310

Virology

Specimen	Gender	Heartworm Antigen ELISA	Canine Brucella IFA
991003000984697 - Serum - 1	Male	Negative	
992021000006548 - Serum - 2	Male	Negative	
992021000006532 - Serum - 3	Male	Negative	
93300320490729 - Serum - 4	Male	Negative	
992021000006165 - Serum - 5	Male	Negative	
992021000006162 - Serum - 6	Male	Negative	
992021000006167 - Serum - 7	Male	Negative	
992021000006164 - Serum - 8	Male	Negative	
5414 - Serum - 9	Male	Negative	
992021000006779 - Serum - 10	Male	Negative	
992021000006523 - Serum - 11	Male	Negative	
992021000006169 - Serum - 12	Male	Negative	
992021000006524 - Serum - 13	Male	Negative	
991003000671087 - Serum - 14	Male	Negative	
9920021000006565 - Serum - 15	Male	Negative	
991003000960577 - Serum - 16	Female	Negative	
9920000006569 - Serum - 17	Female	Negative	
991003000960539 - Serum - 18	Female	Negative	
991003000984495 - Serum - 19	Female	Negative	
991003000954396 - Serum - 20	Female	Negative	
991003000984614 - Serum - 21	Female	Negative	
991003000984611 - Serum - 22	Female	Negative	
990000005953711 - Serum - 23	Female	Negative	
990000005953550 - Serum - 24		Negative	
991003000677113 - Serum - 25	Male	Negative	
991003000960538 - Serum - 26	Male	Negative	
991003001227061 - Serum - 27	Female	Negative	
99201000006796 - Serum - 28	Female	Negative	
992021000006571 - Serum - 29	Female	Negative	
992021000006776 - Serum - 30	Female	Negative	
991003001162086 - Serum - 31	Female	Negative	
990000004824587 - Serum - 32	Female	Negative	
990000006537372 - Serum - 33	Female	Negative	
992021000006791 - Serum - 34	Female	Negative	
900215004032365 - Serum - 35	Female	Negative	
6564 - Serum - 36	Female	Negative	
990000006537366 - Serum - 37	Female	Negative	
991003001657018 - Serum - 38	Male	Negative	
990000007864428 - Serum - 39	Male	Negative	
990000007864434 - Serum - 40	Male	Negative	
992021000006546 - Serum - 41	Female	Negative	
99100301239008 - Serum - 42	Male	Negative	
992021000006780 - Serum - 43	Female	Negative	
992021000006067 - Serum - 44	Male	Negative	
933000320690884 - Serum - 45	Female	Negative	
992021000006774 - Serum - 46	Female	Negative	
992021000006768 - Serum - 47	Female	Negative	
992021000006769 - Serum - 48	Male	Negative	
99000004823446 - Serum - 49	Female	Negative	
990000005953622 - Serum - 50	Male	Negative	
991003001226196 - Serum - 51	Female	Negative	
991003000986328 - Serum - 52	Female	Negative	
992021000006525 - Serum - 53	Female	Negative	
990000007864421 - Serum - 54	Female	Negative	
990000007902320 - Serum - 55	Female	Negative	

Specimen	Gender	Heartworm Antigen ELISA	Canine Brucella IFA
992021000006777 - Serum - 56	Female	Negative	
992021000006023 - Serum - 57	Female	Negative	
900113002489212 - Serum - 58	Male	Negative	
991003000984606 - Serum - 59	Female	Negative	
992021000006522 - Serum - 60	Female	Negative	
992021000006547 - Serum - 61	Female	Negative	
956000011095260 - Serum - 62	Female	Negative	
991003000417382 - Serum - 63	Female	Negative	
91003000418015 - Serum - 64	Female	Negative	
Pooled Serum 1-5 - Serum - 65			Negative
Pooled Serum 6-10 - Serum - 66			Negative
Pooled Serum 11-15 - Serum - 67			Negative
Pooled Serum 16-20 - Serum - 68			Negative
Pooled Serum 21-25 - Serum - 69			Negative
Pooled Serum 26-30 - Serum - 70			Negative
Pooled Serum 31-35 - Serum - 71			Negative
Pooled Serum 36-40 - Serum - 72			Negative
Pooled Serum 41-45 - Serum - 73			Negative
Pooled Serum 46-50 - Serum - 74			Negative
Pooled Serum 51-55 - Serum - 75			Negative
Pooled Serum 56-60 - Serum - 76			Negative
Pooled Serum 61-64 - Serum - 77			Negative

Pending Tests

No Pending Tests

Client Report History

Report Type	Delivery Method	Sent To	Date Sent
Final	Email	wcv.results@gmail.com	11/16/2022 5:42 PM

Bulletin(s)

Preliminary and Interim reports are NOT official results. Results are official when denoted as Final Report.

ADDL results are available by email and by secure web portal access. Call 1-614-728-6220 to inquire about registering to receive web portal results.

Results apply to the sample(s) as submitted - NGS-1, NGS-2, BAC-11, BAC-43 and BAC-49.

CUSTOMER SUPPLIED INFORMATION

Customer supplied information includes collection date, submitter's name, sample ID, and tests requested

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For *urgent*, after-hours issues, please use our after-hours phone number:

(888) 456-3405.

Visit our website for test fees and submission forms: https://agri.ohio.gov/addl

The State of Ohio observes the upcoming holidays and ADDL will be closed on:

Veterans Day - Friday, November 11th
Thanksgiving - Thursday, November 24th
Christmas - Monday, December 26th

Thank you for your business!

SHIPPING ALERT!

Courier delivery times are NOT being guaranteed, resulting in the arrival of overheated samples that are being rejected for testing. Please ship samples to the ADDL with extra refrigerant and absorbent material in an insulated container.

Animal Disease Diagnostic Laboratory
8995 East Main Street
Reynoldsburg, Ohio 43068
Phone: (614) 728-6220
Fax: (614) 728-6303

Accession Number: B2227088

B2227088

11/14/2022

Melanie Prarat

Electronic Submission/High Volume Submission Form

Veterinarian Information		Client/Premise Information	
Full Name and License Number:	Joseph J. Varga, DVM 7723	Premise ID (if applicable):	
Clinic Name:	Walnut Creek Veterinary	Owner/Farm Name:	Happy Tail Pets
Address:	PO box 99	Address:	4460 TR 617
City/State/Zip:	Walnut Creek OH 44687	City/State/Zip:	Millersburg Ohio 44654
Phone:	330.763.0698	Phone:	330.600.9949

X Joseph J. Varga DVM
Veterinarian Signature (Digital or Physical)

Test(s) Requested

Brucellosis test AND HEART WORM

Purpose of Testing: Diagnostic/Sick Animal(s)

Please print and mail with samples, and email to:
submissions@agri.ohio.gov

Sample Collection Date: 11/7/22

Sample #	Primary Animal ID	Secondary Animal ID (Optional)	Species	Breed	Age	Sex	Sample Type
1	4697	991003000984697	Gabe red & white	PO	12/2/2019	M	
2	6548	992021000006548	Thunder & Lighting Chocolate & White	KC	1/9/2022	M	
3	6532	992021000006532	Oswald (Oscar) Blk & wht tri	PO	12/26/2021	M	
4	0729	93300320490729	Louie(Kahlua	KC	6/29/2021	M	
5	6165	992021000006165	Porter (Ginger) merle tri	PO	11/10/2021	M	
6	6162	992021000006162	Jalepeno Popper C-4 red & white	PO	12/24/2021	M	
7	6167	992021000006167	Tucker black white tri	PO	1/1/2022	M	
8	6164	992021000006164	Tiger red & white	PO	1/1/2022	M	
9	5414		Timber red & white	PO	2/27/2021	M	
10	6779	992021000006779	Asher Blk & Wh Tri	PO	3/16/2022	M	
11	6523	992021000006523	Milo chocolate Tri	KC	5/10/2021	M	
12	6169	992021000006169	Jasper (Sassy) chocolate tri	PO	5/2/2021	M	

11/14/22 SD

ADDL
OHIO ANIMAL DISEASE DIAGNOSTIC LABORATORY

Animal Disease Diagnostic Laboratory
8995 East Main Street
Reynoldsburg, Ohio 43068
Phone: (614) 728-6220
Fax: (614) 728-6303

Final (11/16/2022)

B2227088
Accession Number: B2227088
11/14/2022
Melanie Prarat

Sample #	Primary Animal ID	Secondary Animal ID (Optional)	Species	Breed	Age	Sex	Sample Type
13	6524	992021000006524	Denali Snowball Merle tri	PO	12/26/2021	M	
14	1087	991003000671087	Mike	BMD PO	3/16/2021	M	
15	6565	9920021000006565	Marshmello w Creme Creme-white	PO		M	
16	0577	991003000960577	Molly Merle Tri #29	PO	10/31/2021	F	
17	6569	9920000006569	Letty merle-tri	PO		F	
18	0539	991003000960539	Rich Glory red white poodle	PO		F	
19	4495	991003000984495	Fiery Freda	PO	10/15/20	F	
20	4396	991003000954396	Chelsey	KC	10/22/2021	F	
21	4614	991003000984614	Galina Chocolate & Red	KC	6/5/2020	F	
22	4611	991003000984611	Mia	KC	10/15/2021	F	
23	3711	990000005953711	Dixie red & white	PO	6/2/2021	F	
24	3550	990000005953550	Jett	PO	9/15/21	M	
25	7113	991003000677113	Lucky Lars double merle	PO	7/22/2020	M	
26	0538	991003000960538	Scraggly / (lincoln) Merle Tri	PO		M	
27	7061	991003001227061	Macey black & white tri	PO	11/30/2021	F	
28	6796	99201000006796	Red Reba red & white	PO	10/8/2021	F	
29	6571	992021000006571	Audrey merle-tri Standred poodle	PO	10/30/2021	F	
30	6776	992021000006776	Millie Black & Tan	KC	5/1/2022	F	
31	2086	991003001162086	Vanessa	KC	6/10/2022	F	
32	4587	990000004824587	Dolly Black & Tan	KC	4/16/2022	F	
33	7372	990000006537372	Elsa merle	kc	5/21/2022	F	

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Final (11/16/2022)

B2227088
Accession Number: B2227088
11/14/2022
Melanie Prarat

Sample #	Primary Animal ID	Secondary Animal ID (Optional)	Species	Breed	Age	Sex	Sample Type
34	6791	992021000006791	Princess Blk & Tan	PO	2/28/2022	F	
35	2365	900215004032365	Karina	KC	9/13/21	F	
36	6564		Lilac Luna Lilac	PO	1/21/2022	F	
37	7366	990000006537366	Eleanor	KC	5/19/2022	F	
38	7018	991003001657018	Kodiak white	PO	2/19/2022	M	
39	4428	990000007864428	Rocky (Enos) Merle	PO	12/23/2021	M	
40	4434	990000007864434	Storm (Ervin) Merle Tri	PO	12/23/2021	M	
41	6546	992021000006546	Misty Raine	KC	1/23/2022	F	
42	9008	99100301239008	Sparten merle tri	PO	5/28/2021	M	
43	6780	992021000006780	Plum Blk & Wh Tri	PO	5/28/2022	F	
44	6067	992021000006067	Samson	PO	5/28/2021	M	
45	0884	933000320690884	Gabby red & white	PO	3/19/2022	F	
46	6774	992021000006774	Peaches Red & White	PO	3/22/2022	F	
47	6768	992021000006768	Monroe's merle tri	PO	4/6/2022	F	
48	6769	992021000006769	Monroe Merle Tri	PO	4/6/2022	M	
49	3446	99000004823446	Elvira Standerd Poodle Merle Tri	PO	2/14/2022	F	
50	3622	990000005953622	Maddox blue merle tri	PO	6/2/2021	M	
51	6196	991003001226196	Quincy's Macey black & white tri	PO	4/24/2020	F	
52	6328	991003000986328	Pippa Merle tri	KC	10/8/2021	F	
53	6525	992021000006525	Sally Merle Tri	PO	12/16/2021	F	
54	4421	990000007864421	Mindy Tri color	KC	3/28/2022	F	
55	2320	990000007902320	Lisa Red and White	PO	12/16/2021	F	

Animal Disease Diagnostic Laboratory
8995 East Main Street
Reynoldsburg, Ohio 43068
Phone: (614) 728-6220
Fax: (614) 728-6303

Final (11/16/2022)

B2227088

Accession Number: B2227088

11/14/2022

Melanie Prarat

Sample #	Primary Animal ID	Secondary Animal ID (Optional)	Species	Breed	Age	Sex	Sample Type
56	6777	992021000006777	Kiwi Blk & Wh Tri	PO	3/22/2022	F	
57	6023	992021000006023	Ellen Merle Tri	PO	12/23/2021	F	
58	9212	900113002489212	Duke Chocolate Merle Tri	EB	8/23/2020	M	
59	4606	991003000984606	Sally merle tri	BMD PO	6/27/2021	F	
60	6522	992021000006522	Leila Merle Tri	PO	10/21/2021	F	
61	6547	992021000006547	Fiona Blenheim / Mandy	KC	1/23/2022	F	
62	5260	956000011095260	Diana black-white tri	PO	8/24/2020	F	
63	7382	991003000417382	Dena Black & Tan	KC	3/6/2022	F	
64	8015	91003000418015	Rita Black & Tan	KC	12/12/2021	F	

Joseph Morgan 041585

LITTER REGISTRATION APPLICATION

Note: A canine registered with another association/club may be bred with an ACA registered canine. The American Canine Association will recognize and register the litter. However, a photocopy of the canine's non-ACA registration certificate of ownership, MUST be attached to this form along with a copy of a three-generation pedigree. For any registration without these requirements please call customer service at 1-800-651-8332 Monday through Friday 8AM-4:15PM EST.

Information About Litter (Please print clearly)

Breed of Pups:

Date of birth of Litter: Number of Males: Number of Females:

Litter Fee $18.00

Information About Sire (Please print clearly)

Sire's Registered Name: Happy Tail's Blazing Tiger

Sire's Registered Number: PR24919803

Sire's Owner Name: Matthew Yoder

I certify the above information to be true and correct to the best of my knowledge.

Sire's Owner Signature

☐ Please register my dog with ACA
Fee: $19.00

Information About Dam (Please print clearly)

Dam's Registered Name:

Dam's Registered Number:

Dam's Owner Name:

Address:

City: State: Country:

Zip Code: Phone Number: Email:

I certify the above information to be true and correct to the best of my knowledge.

Dam's Owner Signature

☐ Please register my dog with ACA
Fee: $19.00

Because ACA wishes to ensure the integrity of its registration process, all persons or entities are advised that the American Canine Association is not responsible for any error, omission, or misrepresentation regarding the accuracy of information contained on forms submitted by the breeder. We must depend on the information supplied to ACA and can therefore make no express or implied warranty concerning the accuracy of that information. ACA stands responsible for any error our office may commit during the registration process and will take steps immediately to correct such errors once they are brought to our attention. However, the faulty document must be returned to us with the error circled. Please be aware that an application may be revoked for good or sufficient cause and that deliberate misrepresentations thereon may result in cancellation of your application and any attendant privileges customarily extended by the American Canine Association. Please inspect all registration document(s) for accuracy upon receipt. Any errors (or items not received) must be reported to ACA within 90 days from the datae of registration. Corrections requested after 90 days will be subject to a reissue fee. The American Canine Association, Inc. reserves the right to make changes or corrections to this document, including prices on any service without notice.

Additional Services

☐ 3 Generation Pedigree (Fee: $15.00)
*This option produces an individual pedigree for each puppy. A flat fee of $15.00 covers the entire litter. Pedigree Kits are mailed separately within 3-5 business days after the litter is processed. However, if the lineage is through a foreign registry, a slight delay may occur, or the pedigree may not be able to be completed.

☐ Express Delivery (Fee: $26.00)
(US Only)
Shipping & Handling
Delivery 1 to 3 business days
Payment methods accepted: Credit Card or Money Order only.

Litter Fee: $ 18.00
Additional Services: $_____
Total: $_____

Information About Payment

Please make check or money order payable to American Canine Association, Inc.

VISA MasterCard DISCOVER

Mail this form to:
American Canine Association
P.O. Box 121107, Clermont, FL 34712 Phone: 1-800-651-8332 Fax: 1-800-422-1864

Card #: Cardholder's Name

Expiration Date: Today's Date:

Signature of Cardholder

Check Policy

When you send a check as payment, you authorize ACA to convert the check into a one-time Electronic Funds Transfer (EFT). This will automatically debit the check amount from your bank account---please note that this may occur as soon as the same day we receive your payment. Also, because of EFT you will not receive a paper copy of your cancelled check from your bank. Any Check returned will be charged a $20.00 fee and orders will be cancelled until payment is received. The American Canine Association is not responsible for overdraft fee charges.

CREDIT CARD AND CHECK BY FAX OR EMAIL ORDERS MAY BE VERIFIED 24 HOURS AFTER SUBMISSION. FAX ORDERS TOLL FREE TO 1(800)422-1864 OR EMAIL TO REGISTRATIONS@ACADOGS.COM.

Litter Registration Application

AA1AN

American Kennel Club®

Use this application to register a litter of puppies bred and whelped in the USA from an AKC®-registered female and an AKC-registered male of the same breed. Please use black ink and capital letters to fill in the boxes.

Registration is not guaranteed. Processing fees are nonrefundable and all fees are subject to change without notice.

Litter and Payment Information

See page 2 for complete details

Litter Date of Birth: Month – Day – Year Breed: _____ **Processing Fee** $ 25

Add puppy fee:
Number to be registered: Males + **Females** = **Total Puppies** x $2.00 → **Puppy Fee** $

List your litter on the AKC website. Enter $29 for a 90 day listing. See page 2 for details. → **AKC Marketplace** $

Enter $25.00 for your Official AKC Litter Certificate. See page 2 for details. → **Litter Certificate** $

Enter $35.00 to request expedited handling. See page 2 for details. → **Expedited Handling** $

Enter $65.00 if it has been more than 6 months since the litter was whelped. → **Late Fee** $

Payment Method: ☐ VISA ☐ AMEX ☐ MasterCard ☐ Discover ☐ Check or money order made payable to: The American Kennel Club. **Total Fee** $

Account Number (do not include dashes) Expiration Date Printed Name of Cardholder

Sire (Male) Information: To Be Completed and Signed by an Owner/Co-Owner of Sire on Date of Mating

PR24919803 — AKC Number of Sire (Male)

HAPPY TAILS BLAZING TIGER — Registered Name of Sire (Male)

MATTHEW — Owner's First Name

YODER — Owner's Last Name

330 – 600 – 9383 — Telephone Number

MDYODERPETS@GMAIL.COM — Email Address Provide your email address to receive important AKC communications.

I *certify* that the identified Dam (Female) was mated to the identified Sire and that the Sire was owned/co-owned by me on the date of mating. **Note the DNA requirements in the Additional Requirements section on page 2.** By signing, I agree to the arbitration clause at the bottom of this page.

Sire Owner's or Co-Owner's Signature

Dam (Female) Information: To Be Completed and Signed by All Owners or Lessees of Dam on Date of Birth

AKC Number of Dam (Female) Registered Name of Dam (Female)

AKC will send the litter kit (one registration application for each puppy) to the address below.

1st Owner's First Name 1st Owner's Last Name

Mailing Address

City State ZIP code + 4

Telephone Number Email Address Provide your email address to receive important AKC communications.

2nd Owner's First Name 2nd Owner's Last Name

I (we) *certify* that I (we) am (are) the owner(s) or lessee(s) of the identified Dam on the date of birth of the litter; that this Dam was not mated to any other dog during her season; that all of the representations on this application are true; and I (we) agree to comply with AKC rules and regulations. I (we) agree if listing this litter on AKC's Online Breeder Classifieds to provide the new owner(s) with the AKC individual registration application. By signing, I (we) agree to the arbitration clause at the bottom of this page. **Note the DNA requirements in the Additional Requirements section on page 2.**

1st Owner's Signature 2nd Owner's Signature

☐ If this is a co-owned litter and you do not wish to allow Online Registration for the puppies, you must check this box. All co-owners must be in agreement.

To Be Completed Only If Ownership of Dam Changed or Lease Terminated while Dam Was in Whelp (Pregnant)

Owner's First Name Owner's Last Name

I *certify* that I was the owner or lessee of the identified Dam on the date the Dam was mated to the identified Sire. I *certify* that the Dam, while in my possession, was not mated to any other dog during her season. By signing, I agree to the arbitration clause at the bottom of this page.

Owner's/Lessee's Signature

Arbitration Clause

I (WE) AGREE THAT ANY CAUSE OF ACTION, CONTROVERSY OR CLAIM ARISING OUT OF OR RELATED TO THIS REGISTRATION OR AS TO THE CONSTRUCTION, INTERPRETATION AND EFFECT OF THIS AGREEMENT SHALL BE SETTLED BY ARBITRATION PURSUANT TO THE APPLICABLE RULES OF THE AMERICAN ARBITRATION ASSOCIATION. HOWEVER, PRIOR TO ARBITRATION ALL APPLICABLE AKC BYLAWS, RULES, REGULATIONS AND PROCEDURES MUST FIRST BE FOLLOWED AS SET FORTH IN THE AKC CHARTER AND BYLAWS, RULES, REGULATIONS, PUBLISHED POLICIES AND GUIDELINES.

AMERICAN KENNEL CLUB®

Litter Registration Application

AA2AN

General Information and Instructions

Purpose	Use this application to register a litter of puppies born in the USA from an AKC-registered female that was mated to an AKC-registered male of the same breed. AKC rules and regulations may be viewed on our website at: www.akc.org. Once submitted, this application becomes the property of the American Kennel Club. **Note:** All forms listed below are available on our website: www.akc.org.
Litters Mated Abroad	Request and submit a Special Litter Registration Application *instead* of this form.
Multiple-Sired Litters	Request a Multiple-Sire Litter Registration Application and use a Multiple-Sire Litter Registration Application form to register each litter. The Multiple-Sire Litter Registration Application cover page contains details on fees and required DNA certification.
Artificial Insemination Litters	**Fresh Semen:** Submit an Application to Register a Litter Resulting from Artificial Insemination Using Fresh Semen. **Fresh Extended Semen:** Submit an Application to Register a Litter Resulting from Artificial Insemination Using Fresh Extended Semen. **Frozen Semen:** Submit an Application to Register a Litter Resulting from Artificial Insemination Using Frozen Semen.
Fees	Processing fees are nonrefundable and all fees are subject to change without notice. A litter application fee always comprises two parts: a processing fee ($25.00) plus a puppy fee (multiply the number of puppies by $2.00). Additional fees are determined by circumstance: **AKC Marketplace - *(Formerly known as AKC Online Breeder Classifieds)* ($29.00)** List your litter on AKC's website for 90 days. By listing your litter you agree to provide the new owner(s) with the AKC individual registration application. This program is designed to assist breeders with selling puppies directly to puppy buyers. *The AKC reserves the right to correct or cancel at will the listing of this litter. Any information that is added to the listing may only concern the specific litter listed.* Some listing restrictions may apply. **The listing fee will be refunded if the litter is unregisterable. Full refunds are offered within 7 days of original purchase. Otherwise it is not refundable. To receive a refund contact AKC Customer Service at the number below.** For more information, go to marketplace.akc.org. **Please note:** In order to receive the instructions for your new Marketplace listing, an email address must be provided. **Official AKC Litter Certificate ($25.00)** The Official AKC Litter Certificate verifies that a litter is officially registered with the AKC. This document, which is offered on premium stock with an elegant color heading and AKC seal, contains basic litter information with a three-generation pedigree contained in the body. The pedigree ends with the current litter (sire and dam) and contains no specific puppy information, AKC titles, colors, DNA profiles, CERF or OFA Certifications. As the breeder, you will receive one frameable copy of the litter certificate and additional copies for each puppy in the litter. The Litter Certificate Package is mailed separately. **Expedited Handling ($35.00)** Expedited Handling available in the Continental U.S. only. Allow 3-5 business days for delivery. **Late Fee ($65.00)** Required if it has been more than 6 months since the litter was whelped. **Note: If paying by check or money order, make payable to: The American Kennel Club.**
Mailing Information	**Standard Handling** Send the completed application to: The American Kennel Club, P.O. Box 900052, Raleigh, NC 27675-9052 **Expedited Handling** Send the completed application to: The American Kennel Club, P.O. Box 900055, Raleigh, NC 27675-9055
Additional Requirements	• If a Dam was leased at the time of mating or birth of a litter, you must submit a Lease Notification form. • If a Sire has sired seven (7) or more litters in his lifetime or more than three (3) litters in the calendar year, an AKC DNA profile must be on file. • If there are more than two (2) Dam owners, contact the AKC for an Additional Signature Form. • Import DNA requirement: All imported dogs (male or female) registered on or after March 1, 2006 require AKC DNA profiling prior to the registration of their first AKC-registered litter. • Conditional Registrations: If either the sire or dam has conditional registration (registration numbers that start with a "Q"), BOTH sire and dam must have an AKC DNA profile prior to the registration of this litter. Additional competition and breeding restrictions apply to the offspring.
Authorizations	Signatures of persons other than the owners or lessees will be accepted only if a properly completed authorization form has been filed with the AKC.
Assistance	Email AKC at info@akc.org or call 919-233-9767 to speak to an AKC Customer Service Representative, Monday – Friday, 8:30 AM – 5:00 PM. Information about the registration process and downloadable forms are available on our website: www.akc.org.
Notice	The American Kennel Club reserves the right to correct or cancel for cause the registration of this litter and its descendants. Any misrepresentation on this application is one example of for cause cancellation and may result in loss of AKC privileges. **Registration is not guaranteed. Processing fees are nonrefundable and all fees are subject to change without notice. The listing fee will be refunded if the litter is unregisterable or if all members of the litter are already registered; otherwise, it is nonrefundable.** By supplying your email address and/or telephone number, you consent to receive communications from AKC and third parties. All dogs from this litter will be eligible for Online Registration unless the designated box is checked. Please note this is for co-owned litters only and all co-owners must be in agreement.