

Demographic Information

Call Name

Registered Name

Breed

Sex

Owner

Zella

Miniature Australian

Shepherd

Jennifer Hoyt

DOB

Registration Number

Tattoo

Microchip

Laboratory #

Report Date

August 12, 2020

AN-22-004329

May 9, 2022

These tests were developed and performed by Paw Print Genetics®, Spokane WA.

Explanation of Results

Normal

A 'Normal' result means that your dog does not have the mutation that causes the associated genetic disease.

Carrier

A 'Carrier' result indicates that your dog has inherited one copy of the mutation that has been reported to cause this genetic disease. Your dog may not be clinically affected by this mutation because two copies of the mutation are usually required to cause disease.

Carrier / At-Risk

A 'Carrier / At-Risk' result indicates that your dog inherited one copy of the mutation that has been reported to cause this genetic disease. Based on the mode of genetic inheritance for this particular disease, inheriting one mutant copy of the gene may result in the disease. Dogs with one copy of the mutation may have a milder phenotype as compared to dogs with two copies of this mutation.

At-Risk / Affected

An 'At-Risk / Affected' result indicates that your dog inherited one or two copies of the mutation that has been reported to cause this genetic disease. Based on the mode of genetic inheritance for this particular disease, inheriting one or two mutant copies of the gene may result in the disease.

No Result

'No Result' indicates that we were unable to obtain a genotype for your dog for this specific disease or trait and does not mean that your dog is a carrier or at-risk for this disease. There are a variety of reasons why a specific test may not provide a reportable result. Unique variations in the genetic code of some individuals may exist and cause certain regions of the genome to not perform properly with a specific test. In addition, suboptimal sampling of the dog's cheek cells could also result in poor sample performance due to inadequate cell counts, bacterial and fungal growth, or the presence of other test inhibitors. An acceptable level of tests with no results has been determined by Paw Print Genetics. Dogs with at least 90% of the test results are determined to be acceptable and reportable. If your dog has an

unacceptable level of tests with no results, you will be contacted for a new sample to repeat the testing.

Please review our testing terms and disclaimers regarding your results.

WT: wild type (normal) M: mutant Y: Y chromosome (male)

Breed Profile

Disease Name	Geno.	Interpretation
Collie Eye Anomaly	WT/WT	Normal (Clear)
Cone Degeneration	WT/WT	Normal (Clear)
<u>Craniomandibular Osteopathy</u>	WT/WT	Normal (Clear)
<u>Degenerative Myelopathy</u>	WT/WT	Normal (Clear)
Degenerative Myelopathy (Bernese Mountain Dog Variant) Degenerative Myelopathy (Common Variant)	0 0	
Exercise-Induced Collapse	WT/WT	Normal (Clear)
Hereditary Cataracts Australian Shepherd Type	WT/WT	Normal (Clear)
<u>Hyperuricosuria</u>	WT/WT	Normal (Clear)
Intervertebral Disc Disease Risk Factor and Chondrodystrophy CDDY with IVDD	WT/WT	Normal (Clear)
Intestinal Cobalamin Malabsorption Border Collie Type	WT/WT	Normal (Clear)
Multidrug Resistance 1	WT/WT	Normal (Clear)
Multifocal Retinopathy 1	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 6	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 8 Australian Shepherd Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration prcd	WT/WT	Normal (Clear)
Von Willebrand Disease I	WT/WT	Normal (Clear)
	WT: (wild type (normal)	M: mutant Y: Y chromosome

Coat Colors & Traits

Trait Name Geno. Interpretation

A Locus Agouti	a ^t /a ^t	Tricolor, black and tan
A ^s Locus Saddle Tan	N/N	No saddle tan/creeping
B Locus Brown	B/b or b/b	Carries brown and may have brown or black coat, nose and foot page
B Locus (Brown) - b ^a B Locus (Brown) - b ^c B Locus (Brown) - b ^d B Locus (Brown) - b ^s	0 1 1 1	
<u>Brachycephaly</u>	BR/br	Likely medium to long muzzle (short muzzle carrier)
<u>Chondrodysplasia</u> <u>CDPA</u>	cd/cd	Likely typical leg length
<u>Curly Hair</u>	Cu/Cu	Straight coat
D Locus Dilute	D/D	Non dilute
D Locus (Dilute) - d ¹ D Locus (Dilute) - d ²	0	
E Locus Yellow/Red	E/E	Black
E ^g Locus Grizzle, Afghan Hound Type	N/N	No grizzle
<u>E^h Locus</u> <u>Sable, Cocker Spaniel Type</u>	N/N	No sable
E ^m Locus Melanistic Mask	E ^m /N	Melanistic mask (carrier
<u>H Locus</u> <u>Harlequin, Great Dane Type</u>	h/h	No harlequin
Hr Locus FOXI3 Hairless Gene Test, Mexican Hairless, Peruvian Hairless and Chinese Crested Type	hr/hr	Coated
<u>l Locus</u> Intensity	1/1	Normal intensity
IC Locus Improper Coat/Furnishings	IC/IC	No furnishings, improper coat
K Locus Dominant Black	k ^y /k ^y	Agouti expression allowed

<u>L Locus</u> <u>Long Hair/Fluffy</u> <u>- Lh¹, Lh²</u>	Lh/Lh	Longhaired
L Locus (Long Hair/Fluffy) - Lh ¹ L Locus (Long Hair/Fluffy) - Lh ²	2 0	
M Locus Merle	m/M268	Single copy merle carrier
<u>Polydactyly</u>	PD/pd	Likely polydactylous with hind dewclaws (typical toes carrier)
S Locus White Spotting, Parti, or Piebald	S/S	No white spotting, flash, parti, or piebald
SD Locus Shedding	sd/SD	Moderate shedding
Sex Determination	X/X	Female
T Locus Natural Bobtail	t/t	Normal tail
	WT: wild type (no	ormal) M: mutant Y: Y chromosome (male)

Determinants of coat colors and traits are complex. Many of these variants are known and many of the genes screened in the Canine HealthCheck interact. In addition, not all the genetic factors that contribute to a dog's coat color and traits are known. Because of the complexities in gene-gene interactions, the coat colors and traits reported in your Canine HealthCheck results may vary from your dog's actual appearance. Individual differences in genes throughout the canine genome, not tested in this genetic screen, may also affect the final coat color or traits seen in your dog.

Diseases

Disease Name	Geno.	Interpretation
Acral Mutilation Syndrome	WT/WT	Normal (Clear)
Acute Respiratory Distress Syndrome	WT/WT	Normal (Clear)
Adult Paroxysmal Dyskinesia	WT/WT	Normal (Clear)
Alaskan Husky Encephalopathy	WT/WT	Normal (Clear)
Alaskan Malamute Polyneuropathy	WT/WT	Normal (Clear)
Amelogenesis Imperfecta	WT/WT	Normal (Clear)
Benign Familial Juvenile Epilepsy	WT/WT	Normal (Clear)
Canine Multiple System Degeneration Chinese Crested Type	WT/WT	Normal (Clear)
<u>Canine Multiple System Degeneration</u> <u>Kerry Blue Terrier Type</u>	WT/WT	Normal (Clear)
Canine Scott Syndrome	WT/WT	Normal (Clear)

Catalase Deficiency	WT/WT	Normal (Clear)
Centronuclear Myopathy	WT/WT	Normal (Clear)
<u>Cerebellar Ataxia</u> <u>Finnish Hound Type</u>	WT/WT	Normal (Clear)
Cerebellar Cortical Degeneration	WT/WT	Normal (Clear)
<u>Cerebellar Degeneration</u>	WT/WT	Normal (Clear)
<u>Chondrodysplasia</u> <u>Karelian Bear Dog and Norwegian Elkhound Type</u>	WT/WT	Normal (Clear)
Cleft Palate and Syndactyly Nova Scotia Duck Tolling Retriever Type	WT/WT	Normal (Clear)
Coagulation Factor VII Deficiency	WT/WT	Normal (Clear)
Collie Eye Anomaly	WT/WT	Normal (Clear)
Complement 3 Deficiency	WT/WT	Normal (Clear)
Cone Degeneration	WT/WT	Normal (Clear)
Cone Degeneration German Shepherd Dog Type	WT/WT	Normal (Clear)
Cone Degeneration German Shorthaired Pointer Type	WT/WT	Normal (Clear)
Cone Degeneration Labrador Retriever Type	WT/WT	Normal (Clear)
Congenital Hypothyroidism with Goiter Terrier Type	WT/WT	Normal (Clear)
Congenital Methemoglobinemia	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome Jack Russell Terrier Type	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome Labrador Retriever Type	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome Old Danish Pointer Type	WT/WT	Normal (Clear)
Congenital Stationary Night Blindness	WT/WT	Normal (Clear)
<u>Craniomandibular Osteopathy</u>	WT/WT	Normal (Clear)
Cyclic Neutropenia	WT/WT	Normal (Clear)
<u>Cystinuria</u> <u>Australian Cattle Dog Type</u>	WT/WT	Normal (Clear)
<u>Cystinuria</u> <u>Labrador Retriever Type</u>	WT/WT	Normal (Clear)
Cystinuria	WT/WT	Normal (Clear)

Miniature Pinscher Type		
<u>Cystinuria</u> <u>Newfoundland Type</u>	WT/WT	Normal (Clear)
Cystinuria Type 3 Bulldog Type Risk Factor, Variant 3	WT/WT	Normal (Clear)
Cystinuria Type 3 Bulldog Type Risk Factor, Variants 1 and 2	WT/WT	Normal (Clear)
Cystinuria Type 3 (Bulldog Type Risk Factor, Variant 1) Cystinuria Type 3 (Bulldog Type Risk Factor, Variant 2)	0	
<u>Dandy-Walker-Like Malformation</u>	WT/WT	Normal (Clear)
<u>Degenerative Myelopathy</u>	WT/WT	Normal (Clear)
Degenerative Myelopathy (Bernese Mountain Dog Variant) Degenerative Myelopathy (Common Variant)	0	
<u>Degenerative Myelopathy Early-Onset Risk Modifier</u> <u>Pembroke Welsh Corgi Type</u>	WT/M	One Copy Carrier - Not associated with disease
Dental Hypomineralization	WT/WT	Normal (Clear)
Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis	WT/WT	Normal (Clear)
<u>Dilated Cardiomyopathy</u> Doberman Pinscher T <u>ype Risk Factor, Variant 1</u>	WT/WT	Normal (Clear)
<u>Dilated Cardiomyopathy</u> Doberman Pinscher Type Risk Factor, Variant 2	WT/WT	Normal (Clear)
<u>Dilated Cardiomyopathy</u> <u>Schnauzer Type</u>	WT/WT	Normal (Clear)
<u>Dry Eye Curly Coat Syndrome</u>	WT/WT	Normal (Clear)
<u> Dystrophic Epidermolysis Bullosa</u>	WT/WT	Normal (Clear)
Early Retinal Degeneration	WT/WT	Normal (Clear)
<u>Ectodermal Dysplasia</u> <u>Chesapeake Bay Retriever Type</u>	WT/WT	Normal (Clear)
<u>Ectodermal Dysplasia, X-Linked</u> <u>Dachshund Type</u>	WT/WT	X-Linked Female Normal
<u>ictodermal Dysplasia, X-Linked</u> <u>Shepherd Type</u>	WT/WT	X-Linked Female Normal
<u> hlers-Danlos Syndrome</u>	WT/WT	Normal (Clear)
Fhlore Donlos Sundrana (Vericus 4)	0	
Ehlers-Danlos Syndrome (Variant 1) Ehlers-Danlos Syndrome (Variant 2)	0	

<u>Epidermolytic Hyperkeratosis</u>	WT/WT	Normal (Clear)
Episodic Falling Syndrome	WT/WT	Normal (Clear)
Exercise-Induced Collapse	WT/WT	Normal (Clear)
Factor XI Deficiency	WT/WT	Normal (Clear)
<u>Familial Nephropathy</u> <u>Cocker Spaniel Type</u>	WT/WT	Normal (Clear)
Familial Nephropathy English Springer Spaniel Type	WT/WT	Normal (Clear)
<u>Fucosidosis</u>	WT/WT	Normal (Clear)
Gallbladder Mucoceles	WT/WT	Normal (Clear)
Glanzmann's Thrombasthenia Great Pyrenees Type	WT/WT	Normal (Clear)
Glanzmann's Thrombasthenia Otterhound Type	WT/WT	Normal (Clear)
Glaucoma Border Collie Type	WT/WT	Normal (Clear)
Globoid Cell Leukodystrophy Irish Setter Type	WT/WT	Normal (Clear)
Globoid Cell Leukodystrophy Terrier Type	WT/WT	Normal (Clear)
Glycogen Storage Disease la	WT/WT	Normal (Clear)
Glycogen Storage Disease IIIa	WT/WT	Normal (Clear)
Glycogen Storage Disease VII Wachtelhund Type	WT/WT	Normal (Clear)
Glycogen Storage Disease VII, PFK Deficiency	WT/WT	Normal (Clear)
GM1 Gangliosidosis Alaskan Husky Type	WT/WT	Normal (Clear)
GM1 Gangliosidosis Portuguese Water Dog Type	WT/WT	Normal (Clear)
GM1 Gangliosidosis Shiba Inu Type	WT/WT	Normal (Clear)
GM2 Gangliosidosis Japanese Chin Type	WT/WT	Normal (Clear)
GM2 Gangliosidosis Poodle Type	WT/WT	Normal (Clear)
<u>Greyhound Polyneuropathy</u>	WT/WT	Normal (Clear)
Hemophilia A Boxer Type	WT/WT	X-Linked Female Normal

Hemophilia A German Shepherd Dog, Type 1	WT/WT	X-Linked Female Normal
Hemophilia A German Shepherd Dog, Type 2	WT/WT	X-Linked Female Normal
Hemophilia B Cairn Terrier Type	WT/WT	X-Linked Female Normal
Hemophilia B Lhasa Apso Type	WT/WT	X-Linked Female Normal
Hemophilia B Rhodesian Ridgeback Type	WT/WT	X-Linked Female Normal
Hereditary Cataracts	WT/WT	Normal (Clear)
<u>Hereditary Cataracts</u> <u>Australian Shepherd Type</u>	WT/WT	Normal (Clear)
<u>Hereditary Footpad Hyperkeratosis</u> <u>Irish Terrier and Kromfohrländer Type</u>	WT/WT	Normal (Clear)
Hereditary Nasal Parakeratosis	WT/WT	Normal (Clear)
<u>Hereditary Nasal Parakeratosis</u> <u>Greyhound Type</u>	WT/WT	Normal (Clear)
Hereditary Nephritis Samoyed Type	WT/WT	X-Linked Female Normal
<u>Hyperuricosuria</u>	WT/WT	Normal (Clear)
<u>Hypomyelination</u> <u>Weimaraner Type</u>	WT/WT	Normal (Clear)
<u>Ichthyosis</u> <u>American Bulldog Type</u>	WT/WT	Normal (Clear)
<u>Ichthyosis</u> <u>Golden Retriever Type 1</u>	WT/WT	Normal (Clear)
<u>Ichthyosis</u> <u>Great Dane Type</u>	WT/WT	Normal (Clear)
Inherited Myopathy of Great Danes	WT/WT	Normal (Clear)
Intervertebral Disc Disease Risk Factor and Chondrodystrophy CDDY with IVDD	WT/WT	Normal (Clear)
Intestinal Cobalamin Malabsorption Beagle Type	WT/WT	Normal (Clear)
Intestinal Cobalamin Malabsorption Border Collie Type	WT/WT	Normal (Clear)
Juvenile Laryngeal Paralysis and Polyneuropathy	WT/WT	Normal (Clear)
<u>Juvenile Myoclonic Epilepsy</u> <u>Rhodesian Ridgeback Type</u>	WT/WT	Normal (Clear)

L-2-Hydroxyglutaric Aciduria Staffordshire Bull Terrier Type	WT/WT	Normal (Clear)
<u>Lagotto Storage Disorder</u>	WT/WT	Normal (Clear)
Late Onset Ataxia	WT/WT	Normal (Clear)
<u>Lethal Acrodermatitis</u>	WT/WT	Normal (Clear)
<u>Leukocyte Adhesion Deficiency, Type I</u>	WT/WT	Normal (Clear)
Leukocyte Adhesion Deficiency, Type III	WT/WT	Normal (Clear)
<u>Ligneous Membranitis</u>	WT/WT	Normal (Clear)
<u>Lundehund Syndrome</u>	WT/WT	Normal (Clear)
<u>Macular Corneal Dystrophy</u> <u>Labrador Retriever Type</u>	WT/WT	Normal (Clear)
<u>May-Hegglin Anomaly</u>	WT/WT	Normal (Clear)
<u>Mucopolysaccharidosis I</u>	WT/WT	Normal (Clear)
Mucopolysaccharidosis IIIA Dachshund Type	WT/WT	Normal (Clear)
Mucopolysaccharidosis IIIA New Zealand Huntaway Type	WT/WT	Normal (Clear)
Mucopolysaccharidosis VII Shepherd Type	WT/WT	Normal (Clear)
Multidrug Resistance 1	WT/WT	Normal (Clear)
Multifocal Retinopathy 1	WT/WT	Normal (Clear)
Multifocal Retinopathy 2	WT/WT	Normal (Clear)
Multifocal Retinopathy 3	WT/WT	Normal (Clear)
<u>Muscular Dystrophy</u> <u>Golden Retriever Type</u>	WT/WT	X-Linked Female Normal
Musladin-Lueke Syndrome	WT/WT	Normal (Clear)
Myostatin Deficiency Whippet and Longhaired Whippet Type	WT/WT	Normal (Clear)
Myotonia Congenita Australian Cattle Dog Type	WT/WT	Normal (Clear)
Myotonia Congenita Schnauzer Type	WT/WT	Normal (Clear)
Myotubular Myopathy 1	WT/WT	X-Linked Female Normal
Myotubular Myopathy 1 Rottweiler Type	WT/WT	X-Linked Female Normal
<u>Narcolepsy</u>	WT/WT	Normal (Clear)

Dachshund Type

1		
<u>Narcolepsy</u> <u>Doberman Pinscher Type</u>	No Result	No Result
<u>Narcolepsy</u> <u>Labrador Retriever Type</u>	WT/WT	Normal (Clear)
Neonatal Cerebellar Cortical Degeneration	WT/WT	Normal (Clear)
Neonatal Encephalopathy with Seizures	WT/WT	Normal (Clear)
Neuroaxonal Dystrophy Rottweiler Type	WT/WT	Normal (Clear)
Neuroaxonal Dystrophy Spanish Water Dog Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis Tibetan Terrier Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 1	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 1 Cane Corso Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 10	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 12	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 2	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 4A	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 5 Australian Cattle Dog/Border Collie Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 5 Golden Retriever Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 6	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 7	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 8 Australian Shepherd Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 8 Setter Type	WT/WT	Normal (Clear)
Oculocutaneous Albinism	WT/WT	Normal (Clear)
Oculocutaneous Albinism Small Breed Type	WT/WT	Normal (Clear)
<u>Osteochondrodysplasia</u>	WT/WT	Normal (Clear)
Osteogenesis Imperfecta Beagle Type	WT/WT	Normal (Clear)
Osteogenesis Imperfecta	No Result	No Result

<u>Dachshund Type</u>		
Osteogenesis Imperfecta Golden Retriever Type	WT/WT	Normal (Clear)
P2RY12 Receptor Platelet Disorder	WT/WT	Normal (Clear)
Pembroke Welsh Corgi Duchenne Muscular Dystrophy	WT/WT	X-Linked Female Normal
Persistent Müllerian Duct Syndrome	WT/WT	Normal (Clear)
<u>Polyneuropathy</u> <u>Leonberger and Saint Bernard Type</u>	WT/WT	Normal (Clear)
Polyneuropathy Leonberger Type 2	WT/WT	Normal (Clear)
Polyneuropathy with Ocular Abnormalities and Neuronal Vacuolation	WT/WT	Normal (Clear)
Pompe Disease	WT/WT	Normal (Clear)
<u>Prekallikrein Deficiency</u>	WT/WT	Normal (Clear)
Primary Ciliary Dyskinesia	WT/WT	Normal (Clear)
<u>Primary Hyperoxaluria</u>	WT/WT	Normal (Clear)
Primary Lens Luxation	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma	WT/WT	Normal (Clear)
<u>Primary Open Angle Glaucoma</u> <u>Basset Fauve de Bretagne Type</u>	WT/WT	Normal (Clear)
<u>Primary Open Angle Glaucoma</u> <u>Basset Hound Type</u>	WT/WT	Normal (Clear)
<u>Primary Open Angle Glaucoma</u> <u>Norwegian Elkhound Type</u>	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma and Primary Lens Luxation Shar Pei Type	WT/WT	Normal (Clear)
<u>Progressive Retinal Atrophy</u> <u>Basenji Type</u>	WT/WT	Normal (Clear)
Progressive Retinal Atrophy Bullmastiff/Mastiff Type	WT/WT	Normal (Clear)
<u>Progressive Retinal Atrophy</u> <u>Giant Schnauzer Type</u>	WT/WT	Normal (Clear)
<u>Progressive Retinal Atrophy</u> <u>Irish Setter Type</u>	WT/WT	Normal (Clear)
<u>Progressive Retinal Atrophy</u> <u>Shetland Sheepdog Type</u>	WT/WT	Normal (Clear)
<u>Progressive Retinal Atrophy</u>	WT/WT	Normal (Clear)

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Sloughi Type Progressive Retinal Atrophy, Cone-Rod Dystrophy Progressive Retinal Atrophy, Cone-Rod Dystrophy 2 Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 Progressive Retinal Atrophy, Generalized Progressive Retinal Atrophy, Generalized Progressive Retinal Atrophy, Generalized Progressive Retinal Atrophy, Golden Retriever 1 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, PRA1 Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Desentration Red Progressive Retinal Atrophy, Progressive Rod-Cone Desentration Red Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 5 Progressive Retinal Atrophy, Rod-Cone Dysplasia 6 Progressive Retinal Atrophy, Wiriant 1) Protein Losing Nephropathy (Variant 2) Protein Losing Nephropathy (Variant 2) Pyruwate Pehydrogenase Deficiency Pyruwate Kinase Deficiency Research Type Pyruwate Kinase Deficiency Research Type Pyruwate Kinase Deficiency Labrador Retriever Type Pyruwate Kinase Deficiency Pyruwate Kinase Deficiency Resulter Labrador Retriever Type Pyruwate			
Progressive Retinal Atrophy, Cone-Rod Dystrophy. 2 Progressive Retinal Atrophy, Cone-Rod Dystrophy. 2 Progressive Retinal Atrophy, Cone-Rod Dystrophy. 4 Progressive Retinal Atrophy, Cone-Rod Dystrophy. 4 Progressive Retinal Atrophy, Generalized Progressive Retinal Atrophy, Golden Retriever 1 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, PRA1 Progressive Retinal Atrophy, PRA1 Progressive Retinal Atrophy, PRA3 Progressive Retinal Atrophy, PRA3 Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration procd Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration procd Progressive Retinal Atrophy, Progressive Rod-Cone Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Protein Losing Nephropat	Sloughi Type		
Progressive Retinal Atrophy. Cone-Rod Dystrophy 2 Progressive Retinal Atrophy. Generalized Progressive Retinal Atrophy. Generalized Progressive Retinal Atrophy. Golden Retriever 1 Progressive Retinal Atrophy. Golden Retriever 2 Progressive Retinal Atrophy. Golden Retriever 2 Progressive Retinal Atrophy. Golden Retriever 2 Progressive Retinal Atrophy. PRA1 Papillon Type Progressive Retinal Atrophy. PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy. Progressive Rod-Cone Degeneration Progressive Retinal Atrophy. Progressive Rod-Cone Degeneration Progressive Retinal Atrophy. Rod-Cone Dysplasia 3 Progressive Retinal Atrophy. Rod-Cone Dysplasia 4 Progressive Retinal Atrophy. Rod-Cone Dysplasia 4 Progressive Retinal Atrophy. Add-Cone Dysplasia 4 Progressive Retinal Atrophy. Variant 1) Protein Losing Nephropathy. Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Prot	Progressive Retinal Atrophy, Cone-Rod Dystrophy	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Generalized Progressive Retinal Atrophy, Generalized Progressive Retinal Atrophy, Golden Retriever 1 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, FRA1 Papillon Type Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Nod-Cone Dysplasia 4 Progressive Retinal Atrophy, Variant 1) Protein Losing Nephropathy Protein Losing Nephropathy	Progressive Retinal Atrophy, Cone-Rod Dystrophy 1	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Generalized Progressive Retinal Atrophy, Golden Retriever 1 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, FRA1 Progressive Retinal Atrophy, PRA1 Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 Protein Losing Nephropathy WT/WT Normal (Clear) Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Pyruvate Kinase Deficiency Basenji Type Pyruvate Kinase Deficiency Beagle Type Pyruvate Kinase Deficiency Beagle Type Pyruvate Kinase Deficiency Beagle Type Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency P	Progressive Retinal Atrophy, Cone-Rod Dystrophy 2	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, Golden Retriever 2 Progressive Retinal Atrophy, PRA1 Progressive Retinal Atrophy, PRA1 Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 Progressive Retinal Atrophy, X-Linked 1 Protein Losing Nephropathy Protein Losing Nephropathy Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Dyruvate Dehydrogenase Deficiency Basenji Type Pyruvate Kinase Deficiency Basenji Type Pyruvate Kinase Deficiency Basenja Type Pyruvate Kinase Deficiency Py	<u>Progressive Retinal Atrophy, Cone-Rod Dystrophy 4</u> crd4/cord1	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, PRA1 Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration proced Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration proced Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration proced Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 Protein Losing Nephropathy Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Protein Losing Nephropathy (Variant 2) Pyruvate Dehydrogenase Deficiency Byruvate Kinase Deficiency Basenji Type Pyruvate Kinase Deficiency Pyruva	Progressive Retinal Atrophy, Generalized	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, PRA1 Papillon Type Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration prcd Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 Progressive Retinal Atrophy, X-Linked 1 Protein Losing Nephropathy Protein Losing Nephropathy Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Pyruvate Cinase Deficiency Basenji Type Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate	Progressive Retinal Atrophy, Golden Retriever 1	WT/WT	Normal (Clear)
Papillon Type Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration procd Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 Progressive Retinal Atrophy, X-Linked 1 Protein Losing Nephropathy WT/WT Normal (Clear) Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Pyruvate Dehydrogenase Deficiency Byruvate Kinase Deficiency Basenji Type Pyruvate Kinase Deficiency Basenji Type Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate	Progressive Retinal Atrophy, Golden Retriever 2	WT/WT	Normal (Clear)
Tibetan Terrier and Spaniel Type Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration prcd Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 Protein Losing Nephropathy, WT/WT Protein Losing Nephropathy, WT/WT, WT/WT Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Dyruvate Dehydrogenase Deficiency, Basenji Type Pyruvate Kinase Deficiency, Basenji Type Pyruvate Kinase Deficiency, Basenji Type Pyruvate Kinase Deficiency, Beagle Type Pyruvate Kinase Deficiency, Labrador Retriever Type Pyruvate Kinase Deficiency, Pyruvate Kinase Deficiency, Pyruvate Kinase Deficiency, Pyruvate Kinase Deficiency, Labrador Retriever Type Pyruvate Kinase Deficiency, Pyruvate Kinase Deficienc	Progressive Retinal Atrophy, PRA1 Papillon Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Rod-Cone Dysplasia 3 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 Progressive Retinal Atrophy, X-Linked 1 Protein Losing Nephropathy. Protein Losing Nephropathy. Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Pyruvate Dehydrogenase Deficiency. Pyruvate Kinase Deficiency. Basenji Type Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Normal (Clear) Normal (Clear) Pyruvate Kinase Deficiency. WT/WT Normal (Clear)	Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Rod-Cone Dysplasia 4 Progressive Retinal Atrophy, X-Linked 1 WT/WT WT/WT X-Linked Female Normal Protein Losing Nephropathy. WT/WT, WT/WT Normal (Clear) - No Increased Risk Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Pyruvate Dehydrogenase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Basenji Type Pyruvate Kinase Deficiency. WT/WT Normal (Clear) WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Labrador Retriever Type Pyruvate Kinase Deficiency. Labrador Retriever Type Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Labrador Retriever Type Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Normal (Clear) Normal (Clear)	<u>Degeneration</u>	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, X-Linked 1 WT/WT WT/WT, WT/WT Normal (Clear) - No Increased Risk Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Pyruvate Dehydrogenase Deficiency. Pyruvate Kinase Deficiency. Basenji Type Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Normal (Clear) Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Beagle Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Beagle Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Normal (Clear) Normal (Clear) Pyruvate Kinase Deficiency. Normal (Clear) Normal (Clear)	Progressive Retinal Atrophy, Rod-Cone Dysplasia 3	WT/WT	Normal (Clear)
Protein Losing Nephropathy. WT/WT, WT/WT Normal (Clear) - No Increased Risk Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Pyruvate Dehydrogenase Deficiency. Pyruvate Kinase Deficiency. Basenji Type Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Labrador Retriever Type Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Labrador Retriever Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Normal (Clear) Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear)	Progressive Retinal Atrophy, Rod-Cone Dysplasia 4	WT/WT	Normal (Clear)
Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2) Dyruvate Dehydrogenase Deficiency. Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Normal (Clear) Normal (Clear) Normal (Clear) Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear)	Progressive Retinal Atrophy, X-Linked 1	WT/WT	X-Linked Female Normal
Pyruvate Dehydrogenase Deficiency. Pyruvate Kinase Deficiency. Basenji Type Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Beagle Type Pyruvate Kinase Deficiency. Pyruvate Kinase Deficiency. Byruvate Kinase Deficiency. Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Pyruvate Kinase Deficiency. WT/WT Normal (Clear) Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear)	Protein Losing Nephropathy	WT/WT, WT/WT	
Pyruvate Kinase Deficiency Basenji Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency Beagle Type Pyruvate Kinase Deficiency Labrador Retriever Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency Labrador Retriever Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency Pug Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency Pug Type WT/WT Normal (Clear) Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear) Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear)	Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2)		
Basenji Type Pyruvate Kinase Deficiency Beagle Type Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Pyruvate Kinase Deficiency Pug Type Pyruvate Kinase Deficiency Pug Type WT/WT Normal (Clear) Pyruvate Kinase Deficiency Pug Type WT/WT Normal (Clear) Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear)	Pyruvate Dehydrogenase Deficiency	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Labrador Retriever Type Pyruvate Kinase Deficiency Pug Type WT/WT Normal (Clear) WT/WT Normal (Clear) Pyruvate Kinase Deficiency Pug Type WT/WT Normal (Clear) Normal (Clear) Normal (Clear) Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear)	<u>Pyruvate Kinase Deficiency</u> <u>Basenji Type</u>	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Pug Type Pyruvate Kinase Deficiency Pug Type WT/WT Normal (Clear) WT/WT Normal (Clear)	<u>Pyruvate Kinase Deficiency</u> <u>Beagle Type</u>	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Terrier Type Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear) WT/WT Normal (Clear) Renal Cystadenocarcinoma and Nodular		WT/WT	Normal (Clear)
Recurrent Inflammatory Pulmonary Disease WT/WT Normal (Clear) Renal Cystadenocarcinoma and Nodular WT/WT	Pyruvate Kinase Deficiency Pug Type	WT/WT	Normal (Clear)
Renal Cystadenocarcinoma and Nodular	<u>Pyruvate Kinase Deficiency</u> <u>Terrier Type</u>	WT/WT	Normal (Clear)
Renal Cystadenocarcinoma and Nodular Dermatofibrosis WT/WT Normal (Clear)	Recurrent Inflammatory Pulmonary Disease	WT/WT	Normal (Clear)
	Renal Cystadenocarcinoma and Nodular Dermatofibrosis	WT/WT	Normal (Clear)

Retinal Dysplasia/Oculoskeletal Dysplasia 1	WT/WT	Normal (Clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 2	WT/WT	Normal (Clear)
Sensory Neuropathy Border Collie Type	WT/WT	Normal (Clear)
Severe Combined Immunodeficiency Disease Terrier Type	WT/WT	Normal (Clear)
<u>Severe Combined Immunodeficiency Disease</u> <u>Wetterhoun Type</u>	WT/WT	Normal (Clear)
Severe Combined Immunodeficiency Disease, X- Linked Basset Hound Type	WT/WT	X-Linked Female Normal
Severe Combined Immunodeficiency Disease, X- Linked Corgi Type	WT/WT	X-Linked Female Normal
Shar-Pei Autoinflammatory Disease	WT/WT	Normal (Clear)
Skeletal Dysplasia 2	WT/WT	Normal (Clear)
<u>Spinal Dysraphism</u>	No Result	No Result
<u>Spinocerebellar Ataxia</u>	WT/WT	Normal (Clear)
<u>Spondylocostal Dysostosis</u>	WT/WT	Normal (Clear)
Stargardt Disease	WT/WT	Normal (Clear)
Startle Disease	WT/WT	Normal (Clear)
<u>Thrombopathia</u> <u>American Eskimo Dog Type</u>	WT/WT	Normal (Clear)
<u>Thrombopathia</u> <u>Basset Hound Type</u>	WT/WT	Normal (Clear)
Thrombopathia Newfoundland Type	WT/WT	Normal (Clear)
Trapped Neutrophil Syndrome	WT/WT	Normal (Clear)
<u>Urolithiasis</u> <u>Native American Indian Dog Type</u>	WT/WT	Normal (Clear)
<u>Van Den Ende-Gupta Syndrome</u>	WT/WT	Normal (Clear)
Von Willebrand Disease I	WT/WT	Normal (Clear)
Von Willebrand Disease II	WT/WT	Normal (Clear)
<u>Von Willebrand Disease III</u> <u>Kooikerhondje Type</u>	WT/WT	Normal (Clear)
Von Willebrand Disease III Scottish Terrier Type	WT/WT	Normal (Clear)

WT: wild type (normal)

M: mutant

Y: Y chromosome (male)

Shu (Saller)

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Laboratory & Scientific Director

Medical Director

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