



Demographic Information

Call Name	Oakley	DOB	Jan 20
Registered Name	Tinker Toys These Eyes Don't Lie @BLA	Registration Number	ASDT-
Breed	Miniature Australian Shepherd	Tattoo	
Sex	F	Microchip	9900C
Owner	Ashley Edens	Laboratory #	AN-20
		Report Date	June 1

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 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 inheritance for this particular disease, inheriting one mutant copy of the gene may result in the disease. Dogs with 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 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 your dog is at risk for this disease. There are a variety of reasons why a specific test may not provide a reportable result. Unique variations in individuals may exist and cause certain regions of the genome to not perform properly with a specific test. In addition, suboptimal sample quality could also result in poor sample performance due to inadequate cell counts, bacterial and fungal growth, or the presence of 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 reportable. If your dog has an unacceptable level of tests with no results, you will be contacted for a new sample to retest.

Please review our [testing terms and disclaimers](#) regarding your results.

WT: **wild type (normal)**

Breed Profile

Disease Name	Genotype	Interp
Collie Eye Anomaly	WT/WT	Normal (
Cone Degeneration	WT/WT	Normal (
Cranio-mandibular Osteopathy	WT/WT	Normal (
Degenerative Myelopathy	WT/WT	Normal (
Degenerative Myelopathy (Bernese Mountain Dog Variant) Degenerative Myelopathy (Common Variant)	0 0	
Exercise-Induced Collapse	WT/WT	Normal (
Hereditary Cataracts Australian Shepherd Type	WT/WT	Normal (
Hyperuricosuria	WT/WT	Normal (
Intervertebral Disc Disease Risk Factor and Chondrodystrophy CDDY with IVDD	WT/WT	Normal (
Intestinal Cobalamin Malabsorption Border Collie Type	WT/WT	Normal (
Multidrug Resistance 1	WT/WT	Normal (
Multifocal Retinopathy 1	WT/WT	Normal (
Neuronal Ceroid Lipofuscinosis 6	WT/WT	Normal (
Neuronal Ceroid Lipofuscinosis 8 Australian Shepherd Type	WT/WT	Normal (
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration prcd	WT/WT	Normal (
Von Willebrand Disease I	WT/WT	Normal (

WT: **wild type (normal)**

Coat Colors & Traits

Trait Name	Genotype	Interp
A Locus Agouti	a ^t /a ^t	Tricolor

A^s Locus Saddle Tan	N/N	No sad
B Locus Brown	B/b or b/b	Carries or black
B Locus (Brown) - b ^a B Locus (Brown) - b ^c B Locus (Brown) - b ^d B Locus (Brown) - b ^s	0 1 1 0	
Brachycephaly	BR/BR	Likely
Chondrodysplasia CDPA	cd/cd	Likely
Cu Locus Curly Hair	Cu/Cu	Straight
D Locus Dilute	D/D	Non dilute
D Locus (Dilute) - d ¹ D Locus (Dilute) - d ²	0 0	
E Locus Yellow/Red	E/E	Black
E^a Locus Grizzle, Afghan Hound Type	N/N	No grizzle
E^b Locus Sable, Cocker Spaniel Type	N/N	No sable
E^m Locus Melanistic Mask	E ^m /N	Melanistic
H Locus Harlequin, Great Dane Type	h/h	No harlequin
Hr Locus FOXI3 Hairless Gene Test, Mexican Hairless, Peruvian Hairless and Chinese Crested Type	hr/hr	Coated
I Locus Intensity	I/I	Normal
IC Locus Improper Coat/Furnishings	IC/IC	No furnishings
K Locus Dominant Black	k ^y /k ^y	Agouti

L Locus Long Hair/Fluffy	Lh/Lh	Longhair
<div style="border: 1px solid black; padding: 5px;"> L Locus (Long Hair/Fluffy) - Lh¹ L Locus (Long Hair/Fluffy) - Lh² </div>		2 0
M Locus Merle	m/m	Non merle
Polydactyly	pd/pd	Normal dewclaw
S Locus White Spotting, Parti, or Piebald	S/S	No white piebald
SD Locus Shedding	SD/SD	High shed
Sex Determination	X/X	Female
T Locus	t/t	Normal WT: wild type (normal)

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. It is important to note that not all variants 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 report may differ 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 appearance of your dog.

Diseases

Disease Name	Genotype	Interpretation
Acral Mutilation Syndrome	WT/WT	Normal
Acute Respiratory Distress Syndrome	WT/WT	Normal
Adult Paroxysmal Dyskinesia	WT/WT	Normal
Alaskan Husky Encephalopathy	WT/WT	Normal
Alaskan Malamute Polyneuropathy	WT/WT	Normal
Amelogenesis Imperfecta	WT/WT	Normal
Benign Familial Juvenile Epilepsy	WT/WT	Normal
Canine Multiple System Degeneration Chinese Crested Type	WT/WT	Normal
Canine Multiple System Degeneration Kerry Blue Terrier Type	WT/WT	Normal
Canine Scott Syndrome	WT/WT	Normal
Catalase Deficiency	WT/WT	Normal
Centronuclear Myopathy	WT/WT	Normal

Cerebellar Ataxia Finnish Hound Type	WT/WT	Norma
Cerebellar Cortical Degeneration	WT/WT	Norma
Cerebellar Degeneration	WT/WT	Norma
Chondrodysplasia Karelian Bear Dog and Norwegian Elkhound Type	WT/WT	Norma
Cleft Palate and Syndactyly Nova Scotia Duck Tolling Retriever Type	WT/WT	Norma
Coagulation Factor VII Deficiency	WT/WT	Norma
Collie Eye Anomaly	WT/WT	Norma
Complement 3 Deficiency	WT/WT	Norma
Cone Degeneration	WT/WT	Norma
Cone Degeneration German Shepherd Dog Type	WT/WT	Norma
Cone Degeneration German Shorthaired Pointer Type	WT/WT	Norma
Cone Degeneration Labrador Retriever Type	WT/WT	Norma
Congenital Hypothyroidism with Goiter Terrier Type	WT/WT	Norma
Congenital Methemoglobinemia	WT/WT	Norma
Congenital Myasthenic Syndrome Jack Russell Terrier Type	WT/WT	Norma
Congenital Myasthenic Syndrome Labrador Retriever Type	WT/WT	Norma
Congenital Myasthenic Syndrome Old Danish Pointer Type	WT/WT	Norma
Congenital Stationary Night Blindness	WT/WT	Norma
Cranio-mandibular Osteopathy	WT/WT	Norma
Cyclic Neutropenia	No Result	No Res
Cystinuria Australian Cattle Dog Type	WT/WT	Norma
Cystinuria Labrador Retriever Type	WT/WT	Norma
Cystinuria Miniature Pinscher Type	WT/WT	Norma

Cystinuria Newfoundland Type	WT/WT	Norma
Cystinuria Type 3 Bulldog Type Risk Factor, Variant 3	WT/WT	Norma
Cystinuria Type 3 Bulldog Type Risk Factor, Variants 1 and 2	WT/WT	Norma
Cystinuria Type 3 (Bulldog Type Risk Factor, Variant 1) Cystinuria Type 3 (Bulldog Type Risk Factor, Variant 2)	0 0	
Dandy-Walker-Like Malformation	WT/WT	Norma
Degenerative Myelopathy	WT/WT	Norma
Degenerative Myelopathy (Bernese Mountain Dog Variant) Degenerative Myelopathy (Common Variant)	0 0	
Degenerative Myelopathy Early-Onset Risk Modifier Pembroke Welsh Corgi Type	No Result	No Res
Dental Hypomineralization	WT/WT	Norma
Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis	WT/WT	Norma
Dilated Cardiomyopathy Doberman Pinscher Type Risk Factor, Variant 1	WT/M	One Co
Dilated Cardiomyopathy Doberman Pinscher Type Risk Factor, Variant 2	WT/WT	Norma
Dilated Cardiomyopathy Schnauzer Type	WT/WT	Norma
Dry Eye Curly Coat Syndrome	WT/WT	Norma
Dystrophic Epidermolysis Bullosa	WT/WT	Norma
Early Retinal Degeneration	WT/WT	Norma
Ectodermal Dysplasia Chesapeake Bay Retriever Type	WT/WT	Norma
Ectodermal Dysplasia, X-Linked Dachshund Type	WT/WT	X-Link
Ectodermal Dysplasia, X-Linked Shepherd Type	WT/WT	X-Link
Ehlers-Danlos Syndrome	WT/WT	Norma
Ehlers-Danlos Syndrome (Variant 1) Ehlers-Danlos Syndrome (Variant 2)	0 0	
Elliptocytosis	WT/WT	Norma

Epidermolytic Hyperkeratosis	WT/WT	Norma
Episodic Falling Syndrome	WT/WT	Norma
Exercise-Induced Collapse	WT/WT	Norma
Factor XI Deficiency	WT/WT	Norma
Familial Nephropathy Cocker Spaniel Type	WT/WT	Norma
Familial Nephropathy English Springer Spaniel Type	WT/WT	Norma
Fucosidosis	WT/WT	Norma
Gallbladder Mucoceles	WT/WT	Norma
Glanzmann's Thrombasthenia Great Pyrenees Type	WT/WT	Norma
Glanzmann's Thrombasthenia Otterhound Type	WT/WT	Norma
Glaucoma Border Collie Type	WT/WT	Norma
Globoid Cell Leukodystrophy Irish Setter Type	WT/WT	Norma
Globoid Cell Leukodystrophy Terrier Type	WT/WT	Norma
Glycogen Storage Disease Ia	WT/WT	Norma
Glycogen Storage Disease IIIa	WT/WT	Norma
Glycogen Storage Disease VII Wachtelhund Type	WT/WT	Norma
Glycogen Storage Disease VII, PFK Deficiency	WT/WT	Norma
GM1 Gangliosidosis Alaskan Husky Type	WT/WT	Norma
GM1 Gangliosidosis Portuguese Water Dog Type	WT/WT	Norma
GM1 Gangliosidosis Shiba Inu Type	WT/WT	Norma
GM2 Gangliosidosis Japanese Chin Type	WT/WT	Norma
GM2 Gangliosidosis Poodle Type	WT/WT	Norma
Greyhound Polyneuropathy	WT/WT	Norma

Hemophilia A Boxer Type	WT/WT	X-Link
Hemophilia A German Shepherd Dog, Type 1	WT/WT	X-Link
Hemophilia A German Shepherd Dog, Type 2	WT/WT	X-Link
Hemophilia B Cairn Terrier Type	WT/WT	X-Link
Hemophilia B Lhasa Apso Type	WT/WT	X-Link
Hemophilia B Rhodesian Ridgeback Type	WT/WT	X-Link
Hereditary Cataracts	WT/WT	Norma
Hereditary Cataracts Australian Shepherd Type	WT/WT	Norma
Hereditary Footpad Hyperkeratosis Irish Terrier and Kromfohländer Type	WT/WT	Norma
Hereditary Nasal Parakeratosis	WT/WT	Norma
Hereditary Nasal Parakeratosis Greyhound Type	WT/WT	Norma
Hereditary Nephritis Samoyed Type	WT/WT	X-Link
Hyperuricosuria	WT/WT	Norma
Hypomyelination Weimaraner Type	WT/WT	Norma
Ichthyosis American Bulldog Type	WT/WT	Norma
Ichthyosis Golden Retriever Type	WT/WT	Norma
Ichthyosis Great Dane Type	WT/WT	Norma
Inherited Myopathy of Great Danes	WT/WT	Norma
Intervertebral Disc Disease Risk Factor and Chondrodystrophy CDDY with IVDD	WT/WT	Norma
Intestinal Cobalamin Malabsorption Beagle Type	WT/WT	Norma
Intestinal Cobalamin Malabsorption Border Collie Type	WT/WT	Norma

Juvenile Laryngeal Paralysis and Polyneuropathy	WT/WT	Norma
Juvenile Myoclonic Epilepsy Rhodesian Ridgeback Type	WT/WT	Norma
L-2-Hydroxyglutaric Aciduria Staffordshire Bull Terrier Type	WT/WT	Norma
Lagotto Storage Disorder	WT/WT	Norma
Late Onset Ataxia	WT/WT	Norma
Lethal Acrodermatitis	WT/WT	Norma
Leukocyte Adhesion Deficiency, Type I	WT/WT	Norma
Leukocyte Adhesion Deficiency, Type III	WT/WT	Norma
Ligneous Membranitis	WT/WT	Norma
Lundehund Syndrome	WT/WT	Norma
Macular Corneal Dystrophy Labrador Retriever Type	WT/WT	Norma
May-Hegglin Anomaly	WT/WT	Norma
Mucopolysaccharidosis I	WT/WT	Norma
Mucopolysaccharidosis IIIA Dachshund Type	WT/WT	Norma
Mucopolysaccharidosis IIIA New Zealand Huntaway Type	WT/WT	Norma
Mucopolysaccharidosis VII Shepherd Type	WT/WT	Norma
Multidrug Resistance 1	WT/WT	Norma
Multifocal Retinopathy 1	WT/WT	Norma
Multifocal Retinopathy 2	WT/WT	Norma
Multifocal Retinopathy 3	WT/WT	Norma
Muscular Dystrophy Golden Retriever Type	WT/WT	X-Link
Musladin-Lueke Syndrome	WT/WT	Norma
Myostatin Deficiency Whippet and Longhaired Whippet Type	WT/WT	Norma
Myotonia Congenita Australian Cattle Dog Type	WT/WT	Norma
Myotonia Congenita Schnauzer Type	WT/WT	Norma

Myotubular Myopathy 1	WT/WT	X-Link
Myotubular Myopathy 1 Rottweiler Type	WT/WT	X-Link
Narcolepsy Dachshund Type	WT/WT	Norma
Narcolepsy Doberman Pinscher Type	WT/WT	Norma
Narcolepsy Labrador Retriever Type	WT/WT	Norma
Neonatal Cerebellar Cortical Degeneration	WT/WT	Norma
Neonatal Encephalopathy with Seizures	WT/WT	Norma
Neuroaxonal Dystrophy Rottweiler Type	WT/WT	Norma
Neuroaxonal Dystrophy Spanish Water Dog Type	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis Tibetan Terrier Type	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 1	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 1 Cane Corso Type	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 10	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 12	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 2	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 4A	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 5 Australian Cattle Dog/Border Collie Type	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 5 Golden Retriever Type	No Result	No Res
Neuronal Ceroid Lipofuscinosis 6	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 7	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 8 Australian Shepherd Type	WT/WT	Norma
Neuronal Ceroid Lipofuscinosis 8 Setter Type	WT/WT	Norma
Oculocutaneous Albinism	WT/WT	Norma

Oculocutaneous Albinism Small Breed Type	WT/WT	Norma
Osteochondrodysplasia	WT/WT	Norma
Osteogenesis Imperfecta Beagle Type	WT/WT	Norma
Osteogenesis Imperfecta Dachshund Type	No Result	No Res
Osteogenesis Imperfecta Golden Retriever Type	WT/WT	Norma
P2RY12 Receptor Platelet Disorder	WT/WT	Norma
Pembroke Welsh Corgi Duchenne Muscular Dystrophy	WT/WT	X-Link
Persistent Müllerian Duct Syndrome	WT/WT	Norma
Polyneuropathy Leonberger and Saint Bernard Type	WT/WT	Norma
Polyneuropathy Leonberger Type 2	WT/WT	Norma
Polyneuropathy with Ocular Abnormalities and Neuronal Vacuolation	WT/WT	Norma
Pompe Disease	WT/WT	Norma
Prekallikrein Deficiency	WT/WT	Norma
Primary Ciliary Dyskinesia	WT/WT	Norma
Primary Hyperoxaluria	WT/WT	Norma
Primary Lens Luxation	WT/WT	Norma
Primary Open Angle Glaucoma	WT/WT	Norma
Primary Open Angle Glaucoma Basset Fauve de Bretagne Type	WT/WT	Norma
Primary Open Angle Glaucoma Basset Hound Type	WT/WT	Norma
Primary Open Angle Glaucoma Norwegian Elkhound Type	WT/WT	Norma
Primary Open Angle Glaucoma and Primary Lens Luxation Shar Pei Type	WT/WT	Norma
Progressive Retinal Atrophy Basenji Type	WT/WT	Norma
Progressive Retinal Atrophy Bullmastiff/Mastiff Type	WT/WT	Norma

Progressive Retinal Atrophy Giant Schnauzer Type	WT/WT	Norma
Progressive Retinal Atrophy Irish Setter Type	WT/WT	Norma
Progressive Retinal Atrophy Shetland Sheepdog Type	WT/WT	Norma
Progressive Retinal Atrophy Sloughi Type	WT/WT	Norma
Progressive Retinal Atrophy, Cone-Rod Dystrophy	WT/WT	Norma
Progressive Retinal Atrophy, Cone-Rod Dystrophy 1	WT/WT	Norma
Progressive Retinal Atrophy, Cone-Rod Dystrophy 2	WT/WT	Norma
Progressive Retinal Atrophy, Cone-Rod Dystrophy 3	WT/WT	Norma
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 crd4/cord1	WT/WT	Norma
Progressive Retinal Atrophy, Generalized	WT/WT	Norma
Progressive Retinal Atrophy, Golden Retriever 1	WT/WT	Norma
Progressive Retinal Atrophy, Golden Retriever 2	WT/WT	Norma
Progressive Retinal Atrophy, PRA1 Papillon Type	WT/WT	Norma
Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type	WT/WT	Norma
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration prcd	WT/WT	Norma
Progressive Retinal Atrophy, Rod-Cone Dysplasia 3	WT/WT	Norma
Progressive Retinal Atrophy, Rod-Cone Dysplasia 4	WT/WT	Norma
Progressive Retinal Atrophy, X-Linked 1	WT/WT	X-Link
Protein Losing Nephropathy	WT/WT, WT/WT	Norma
Protein Losing Nephropathy (Variant 1) Protein Losing Nephropathy (Variant 2)	0 0	
Pyruvate Dehydrogenase Deficiency	WT/WT	Norma
Pyruvate Kinase Deficiency Basenji Type	No Result	No Res
Pyruvate Kinase Deficiency Beagle Type	WT/WT	Norma

Pyruvate Kinase Deficiency Labrador Retriever Type	WT/WT	Norma
Pyruvate Kinase Deficiency Pug Type	WT/WT	Norma
Pyruvate Kinase Deficiency Terrier Type	WT/WT	Norma
Recurrent Inflammatory Pulmonary Disease	WT/WT	Norma
Renal Cystadenocarcinoma and Nodular Dermatofibrosis	WT/WT	Norma
Retinal Dysplasia/Oculoskeletal Dysplasia 1	WT/WT	Norma
Retinal Dysplasia/Oculoskeletal Dysplasia 2	WT/WT	Norma
Sensory Neuropathy Border Collie Type	WT/WT	Norma
Severe Combined Immunodeficiency Disease Terrier Type	WT/WT	Norma
Severe Combined Immunodeficiency Disease Wetterhoun Type	WT/WT	Norma
Severe Combined Immunodeficiency Disease, X-Linked Basset Hound Type	WT/WT	X-Link
Severe Combined Immunodeficiency Disease, X-Linked Corgi Type	WT/WT	X-Link
Shar-Pei Autoinflammatory Disease	WT/WT	Norma
Skeletal Dysplasia 2	WT/WT	Norma
Spinal Dysraphism	WT/WT	Norma
Spinocerebellar Ataxia	WT/WT	Norma
Spondylocostal Dysostosis	WT/WT	Norma
Stargardt Disease	WT/WT	Norma
Startle Disease	WT/WT	Norma
Thrombopathia American Eskimo Dog Type	WT/WT	Norma
Thrombopathia Basset Hound Type	WT/WT	Norma
Thrombopathia Newfoundland Type	WT/WT	Norma
Trapped Neutrophil Syndrome	WT/WT	Norma
Urolithiasis Native American Indian Dog Type	WT/WT	Norma

Van Den Ende-Gupta Syndrome	WT/WT	Norma
Von Willebrand Disease I	WT/WT	Norma
Von Willebrand Disease II	WT/WT	Norma
Von Willebrand Disease III Kooikerhondje Type	No Result	No Res
Von Willebrand Disease III Scottish Terrier Type	WT/WT	Norma
Von Willebrand Disease III Shetland Sheepdog Type	WT/WT	Norma

WT: wild type (normal)



Blake C Ballif, PhD

Laboratory & Scientific Director



Canine HealthCheck is a product of Paw Print Genetics. This test was developed and its performance determined by Paw Print Genetics®. This laboratory has established and verified the test's a performed are DNA-base, rare genomic variations may interfere with the performance of some tests producing false results. If you think these results are in error, please contact the laboratory for