



Demographic Information

Call Name	Nellie	DOB
Registered Name		Registration Number
Breed	Miniature American Shepherd	Tattoo
Sex	Female	Microchip
Owner	Christie Martin	Laboratory #
		Report Date

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 disease. 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 disease. Dogs with one copy of the mutation may have a higher risk of developing the disease.
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 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 a specific test may not provide a reportable result. Unique variations in the genetic code of some individuals may cause a suboptimal sampling of the dog's cheek cells could also result in poor sample performance due to inadequate cell collection. If a test with no results has been determined by Paw Print Genetics. Dogs with at least 90% of the test results are determined to be 'No Result', you will be contacted for a new sample to repeat the testing.

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

Breed Profile

Disease Name	Genotype
Coagulation Factor VII Deficiency	WT/WT
Collie Eye Anomaly	WT/WT
Cone Degeneration	WT/WT
Cranio-mandibular Osteopathy	WT/WT
Degenerative Myelopathy	WT/WT
Degenerative Myelopathy (Bernese Mountain Dog Variant) Degenerative Myelopathy (Common Variant)	0 0
Hereditary Cataracts (Australian Shepherd Type)	WT/WT
Hyperuricosuria	WT/WT
Intervertebral Disc Disease Risk Factor and Chondrodystrophy (CDDY with IVDD)	WT/WT
Intestinal Cobalamin Malabsorption (Border Collie Type)	WT/WT
Multidrug Resistance 1	WT/WT
Multifocal Retinopathy 1	WT/WT
Neuronal Ceroid Lipofuscinosis 5 (Australian Cattle Dog/Border Collie Type)	WT/WT
Neuronal Ceroid Lipofuscinosis 6	WT/WT
Neuronal Ceroid Lipofuscinosis 8 (Australian Shepherd Type)	WT/WT
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration (prcd)	WT/WT
Von Willebrand Disease I	WT/WT

Coat Colors & Traits

Trait Name	Genotype
A Locus (Agouti)	a ^t /a ^t
A^s Locus (Saddle Tan)	N/N

B Locus (Brown)	b/b
<ul style="list-style-type: none"> B Locus (Brown) - b^a B Locus (Brown) - b^c B Locus (Brown) - b^d B Locus (Brown) - b^s 	<ul style="list-style-type: none"> 0 2 2 0
Brachycephaly	BR/BR
Chondrodysplasia (CDPA)	cd/cd
Co Locus (Cocoa, French Bulldog Type)	CO/CO
Cu Locus (Curly Hair)	Cu/Cu
D Locus (Dilute)	D/D
<ul style="list-style-type: none"> D Locus (Dilute) - d¹ D Locus (Dilute) - d² 	<ul style="list-style-type: none"> 0 0
E Locus (Yellow/Red)	E/E
E^g Locus (Grizzle, Afghan Hound Type)	N/N
E^h Locus (Sable, Cocker Spaniel Type)	N/N
E^m Locus (Melanistic Mask)	N/N
H Locus (Harlequin, Great Dane Type)	h/h
Hr Locus (FOXI3 Hairless Gene Test, Mexican Hairless, Peruvian Hairless and Chinese Crested Type)	hr/hr
I Locus (Intensity)	I/I
IC Locus (Improper Coat/Furnishings)	IC/IC
K Locus (Dominant Black)	k ^y /k ^y
L Locus (Long Hair/Fluffy) - Lh¹, Lh², Lh⁴	Lh/Lh
<ul style="list-style-type: none"> L Locus (Long Hair/Fluffy) - Lh¹ L Locus (Long Hair/Fluffy) - Lh² L Locus (Long Hair/Fluffy) - Lh⁴ 	<ul style="list-style-type: none"> 2 0 0
M Locus (Merle)	m/m
Polydactyly	PD/pd
S Locus (White Spotting, Parti, or Piebald)	S/S

SD Locus (Shedding)	SD/SD
Sex Determination - ZFX/Y	X/X
T Locus (Natural Bobtail)	t/t

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 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. Variants may also affect the final coat color or traits seen in your dog.

Diseases

Disease Name	Genotype
Acral Mutilation Syndrome	WT/WT
Acute Respiratory Distress Syndrome	WT/WT
Adult Paroxysmal Dyskinesia	WT/WT
Alaskan Husky Encephalopathy	WT/WT
Alaskan Malamute Polyneuropathy	WT/WT
Amelogenesis Imperfecta	WT/WT
Ataxia (Norwegian Buhund Type)	WT/WT
Benign Familial Juvenile Epilepsy	WT/WT
Canine Multiple System Degeneration (Chinese Crested Type)	WT/WT
Canine Multiple System Degeneration (Kerry Blue Terrier Type)	WT/WT
Canine Scott Syndrome	WT/WT
Catalase Deficiency	WT/WT
Centronuclear Myopathy	WT/WT
Cerebellar Ataxia (Finnish Hound Type)	WT/WT
Cerebellar Ataxia 1 (Belgian Shepherd Type)	WT/WT
Cerebellar Cortical Degeneration	WT/WT
Cerebellar Degeneration	WT/WT
Chondrodysplasia (Karelian Bear Dog and Norwegian Elkhound Type)	WT/WT
Cleft Palate and Syndactyly (Nova Scotia Duck Tolling Retriever Type)	WT/WT

Coagulation Factor VII Deficiency	WT/WT
Collie Eye Anomaly	WT/WT
Complement 3 Deficiency	WT/WT
Cone Degeneration	WT/WT
Cone Degeneration (German Shepherd Dog Type)	WT/WT
Cone Degeneration (German Shorthaired Pointer Type)	WT/WT
Cone Degeneration (Labrador Retriever Type)	WT/WT
Congenital Hypothyroidism with Goiter (Terrier Type)	WT/WT
Congenital Methemoglobinemia	WT/WT
Congenital Myasthenic Syndrome (Jack Russell Terrier Type)	WT/WT
Congenital Myasthenic Syndrome (Labrador Retriever Type)	WT/WT
Congenital Myasthenic Syndrome (Old Danish Pointer Type)	WT/WT
Congenital Stationary Night Blindness	WT/WT
Cranio-mandibular Osteopathy	WT/WT
Cyclic Neutropenia	WT/WT
Cystinuria (Australian Cattle Dog Type)	WT/WT
Cystinuria (Labrador Retriever Type)	WT/WT
Cystinuria (Miniature Pinscher Type)	WT/WT
Cystinuria (Newfoundland Type)	WT/WT
Cystinuria Type 3 (Bulldog Type Risk Factor, Variant 3)	WT/WT
Cystinuria Type 3 (Bulldog Type Risk Factor, Variants 1 and 2)	WT/WT
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
Degenerative Myelopathy	WT/WT
Degenerative Myelopathy (Bernese Mountain Dog Variant) Degenerative Myelopathy (Common Variant)	0 0

Degenerative Myelopathy Early-Onset Risk Modifier (Pembroke Welsh Corgi Type)	WT/WT
Dental Hypomineralization	WT/WT
Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis	WT/WT
Dilated Cardiomyopathy (Doberman Pinscher Type Risk Factor, Variant 1)	WT/WT
Dilated Cardiomyopathy (Doberman Pinscher Type Risk Factor, Variant 2)	WT/WT
Dilated Cardiomyopathy (Schnauzer Type)	WT/WT
Dry Eye Curly Coat Syndrome	WT/WT
Dystrophic Epidermolysis Bullosa	WT/WT
Early Retinal Degeneration	WT/WT
Ectodermal Dysplasia (Chesapeake Bay Retriever Type)	WT/WT
Ectodermal Dysplasia, X-Linked (Dachshund Type)	WT/WT
Ectodermal Dysplasia, X-Linked (Shepherd Type)	WT/WT
Ehlers-Danlos Syndrome	WT/WT
Ehlers-Danlos Syndrome (Variant 1)	0
Ehlers-Danlos Syndrome (Variant 2)	0
Elliptocytosis	WT/WT
Epidermolytic Hyperkeratosis	WT/WT
Episodic Falling Syndrome	WT/WT
Exercise-Induced Collapse	WT/WT
Factor XI Deficiency	WT/WT
Familial Nephropathy (Cocker Spaniel Type)	WT/WT
Familial Nephropathy (English Springer Spaniel Type)	WT/WT
Fucosidosis	WT/WT
Gallbladder Mucoceles	WT/WT
Glanzmann's Thrombasthenia (Great Pyrenees Type)	WT/WT
Glanzmann's Thrombasthenia (Otterhound Type)	WT/WT
Glaucoma (Border Collie Type)	WT/WT

Globoid Cell Leukodystrophy (Irish Setter Type)	WT/WT
Globoid Cell Leukodystrophy (Terrier Type)	WT/WT
Glycogen Storage Disease Ia	WT/WT
Glycogen Storage Disease IIIa	WT/WT
Glycogen Storage Disease VII (Wachtelhund Type)	WT/WT
Glycogen Storage Disease VII, PFK Deficiency	WT/WT
GM1 Gangliosidosis (Alaskan Husky Type)	WT/WT
GM1 Gangliosidosis (Portuguese Water Dog Type)	WT/WT
GM1 Gangliosidosis (Shiba Inu Type)	WT/WT
GM2 Gangliosidosis (Japanese Chin Type)	WT/WT
GM2 Gangliosidosis (Poodle Type)	WT/WT
Greyhound Polyneuropathy	WT/WT
Hemophilia A (Boxer Type)	WT/WT
Hemophilia A (German Shepherd Dog, Type 1)	WT/WT
Hemophilia A (German Shepherd Dog, Type 2)	WT/WT
Hemophilia B (Cairn Terrier Type)	WT/WT
Hemophilia B (Lhasa Apso Type)	WT/WT
Hemophilia B (Rhodesian Ridgeback Type)	WT/WT
Hereditary Cataracts (Australian Shepherd Type)	WT/WT
Hereditary Cataracts	WT/WT
Hereditary Footpad Hyperkeratosis (Irish Terrier and Kromfohrländer Type)	WT/WT
Hereditary Nasal Parakeratosis	WT/WT
Hereditary Nasal Parakeratosis (Greyhound Type)	WT/WT
Hereditary Nephritis (Samoyed Type)	WT/WT
Hyperuricosuria	WT/WT
Hypomyelination (Weimaraner Type)	WT/WT
Ichthyosis (American Bulldog Type)	WT/WT
Ichthyosis (Golden Retriever Type 1)	WT/WT

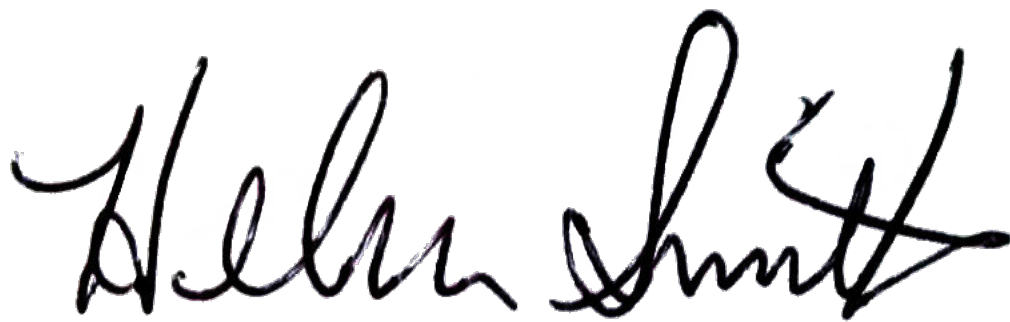
Ichthyosis (Golden Retriever Type 2)	WT/WT
Ichthyosis (Great Dane Type)	WT/WT
Inherited Myopathy of Great Danes	WT/WT
Intervertebral Disc Disease Risk Factor and Chondrodystrophy (CDDY with IVDD)	WT/WT
Intestinal Cobalamin Malabsorption (Beagle Type)	WT/WT
Intestinal Cobalamin Malabsorption (Border Collie Type)	WT/WT
Juvenile Laryngeal Paralysis and Polyneuropathy	WT/WT
Juvenile Myoclonic Epilepsy (Rhodesian Ridgeback Type)	WT/WT
L-2-Hydroxyglutaric Aciduria (Staffordshire Bull Terrier Type)	WT/WT
Lagotto Storage Disorder	WT/WT
Late Onset Ataxia	WT/WT
Lethal Acrodermatitis	WT/WT
Leukocyte Adhesion Deficiency, Type I	WT/WT
Leukocyte Adhesion Deficiency, Type III	WT/WT
Ligneous Membranitis	WT/WT
Lundehund Syndrome	WT/WT
Macular Corneal Dystrophy (Labrador Retriever Type)	WT/WT
May-Hegglin Anomaly	WT/WT
Mucopolysaccharidosis I	WT/WT
Mucopolysaccharidosis IIIA (Dachshund Type)	WT/WT
Mucopolysaccharidosis IIIA (New Zealand Huntaway Type)	WT/WT
Mucopolysaccharidosis VII (Shepherd Type)	WT/WT
Multidrug Resistance 1	WT/WT
Multifocal Retinopathy 1	WT/WT
Multifocal Retinopathy 2	WT/WT
Multifocal Retinopathy 3	WT/WT
Muscular Dystrophy (Golden Retriever Type)	WT/WT
Musladin-Lueke Syndrome	WT/WT

Myostatin Deficiency (Whippet and Longhaired Whippet Type)	WT/WT
Myotonia Congenita (Australian Cattle Dog Type)	WT/WT
Myotonia Congenita (Schnauzer Type)	WT/WT
Myotubular Myopathy 1	WT/WT
Myotubular Myopathy 1 (Rottweiler Type)	WT/WT
Narcolepsy (Dachshund Type)	WT/WT
Narcolepsy (Doberman Pinscher Type)	WT/WT
Narcolepsy (Labrador Retriever Type)	WT/WT
Neonatal Cerebellar Cortical Degeneration	WT/WT
Neonatal Encephalopathy with Seizures	WT/WT
Neuroaxonal Dystrophy (Rottweiler Type)	WT/WT
Neuroaxonal Dystrophy (Spanish Water Dog Type)	WT/WT
Neuronal Ceroid Lipofuscinosis (Tibetan Terrier Type)	WT/WT
Neuronal Ceroid Lipofuscinosis 1 (Cane Corso Type)	WT/WT
Neuronal Ceroid Lipofuscinosis 1	WT/WT
Neuronal Ceroid Lipofuscinosis 10	WT/WT
Neuronal Ceroid Lipofuscinosis 12	WT/WT
Neuronal Ceroid Lipofuscinosis 2	WT/WT
Neuronal Ceroid Lipofuscinosis 4A	WT/WT
Neuronal Ceroid Lipofuscinosis 5 (Australian Cattle Dog/Border Collie Type)	WT/WT
Neuronal Ceroid Lipofuscinosis 5 (Golden Retriever Type)	WT/WT
Neuronal Ceroid Lipofuscinosis 6	WT/WT
Neuronal Ceroid Lipofuscinosis 7	WT/WT
Neuronal Ceroid Lipofuscinosis 8 (Australian Shepherd Type)	WT/WT
Neuronal Ceroid Lipofuscinosis 8 (Setter Type)	WT/WT
Oculocutaneous Albinism	WT/WT
Oculocutaneous Albinism (Small Breed Type)	WT/WT
Osteochondrodysplasia	WT/WT

Osteogenesis Imperfecta (Beagle Type)	WT/WT
Osteogenesis Imperfecta (Dachshund Type)	WT/WT
Osteogenesis Imperfecta (Golden Retriever Type)	WT/WT
P2RY12 Receptor Platelet Disorder	WT/WT
Pembroke Welsh Corgi Duchenne Muscular Dystrophy	WT/WT
Persistent Müllerian Duct Syndrome	WT/WT
Polyneuropathy (Leonberger and Saint Bernard Type)	WT/WT
Polyneuropathy (Leonberger Type 2)	WT/WT
Polyneuropathy with Ocular Abnormalities and Neuronal Vacuolation	WT/WT
Pompe Disease	WT/WT
Prekallikrein Deficiency	WT/WT
Primary Ciliary Dyskinesia	WT/WT
Primary Hyperoxaluria	WT/WT
Primary Lens Luxation	WT/WT
Primary Open Angle Glaucoma (Basset Fauve de Bretagne Type)	WT/WT
Primary Open Angle Glaucoma (Basset Hound Type)	WT/WT
Primary Open Angle Glaucoma	WT/WT
Primary Open Angle Glaucoma (Norwegian Elkhound Type)	WT/WT
Primary Open Angle Glaucoma and Primary Lens Luxation (Shar Pei Type)	WT/WT
Progressive Retinal Atrophy (Basenji Type)	WT/WT
Progressive Retinal Atrophy (Bullmastiff/Mastiff Type)	WT/WT
Progressive Retinal Atrophy (Giant Schnauzer Type)	WT/WT
Progressive Retinal Atrophy (Irish Setter Type)	WT/WT
Progressive Retinal Atrophy (Shetland Sheepdog Type)	WT/WT
Progressive Retinal Atrophy (Sloughi Type)	WT/WT
Progressive Retinal Atrophy, Cone-Rod Dystrophy	WT/WT
Progressive Retinal Atrophy, Cone-Rod Dystrophy 1	WT/WT
Progressive Retinal Atrophy, Cone-Rod Dystrophy 2	WT/WT

Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 (crd4/cord1)	WT/M
Progressive Retinal Atrophy, Early Onset (Spanish Water Dog Type)	WT/WT
Progressive Retinal Atrophy, Generalized	WT/WT
Progressive Retinal Atrophy, Golden Retriever 1	WT/WT
Progressive Retinal Atrophy, Golden Retriever 2	WT/WT
Progressive Retinal Atrophy, PRA1 (Papillon Type)	WT/WT
Progressive Retinal Atrophy, PRA3 (Tibetan Terrier and Spaniel Type)	WT/WT
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration (prcd)	WT/WT
Progressive Retinal Atrophy, Rod-Cone Dysplasia 3	WT/WT
Progressive Retinal Atrophy, Rod-Cone Dysplasia 4	WT/WT
Progressive Retinal Atrophy, X-Linked 1	WT/WT
Protein Losing Nephropathy	WT/WT, WT/WT
Protein Losing Nephropathy (Variant 1)	0
Protein Losing Nephropathy (Variant 2)	0
Pyruvate Dehydrogenase Deficiency	WT/WT
Pyruvate Kinase Deficiency (Basenji Type)	WT/WT
Pyruvate Kinase Deficiency (Beagle Type)	WT/WT
Pyruvate Kinase Deficiency (Labrador Retriever Type)	WT/WT
Pyruvate Kinase Deficiency (Pug Type)	WT/WT
Pyruvate Kinase Deficiency (Terrier Type)	WT/WT
Recurrent Inflammatory Pulmonary Disease	WT/WT
Renal Cystadenocarcinoma and Nodular Dermatofibrosis	WT/WT
Retinal Dysplasia/Oculoskeletal Dysplasia 1	WT/WT
Retinal Dysplasia/Oculoskeletal Dysplasia 2	WT/WT
Sensory Neuropathy (Border Collie Type)	WT/WT
Severe Combined Immunodeficiency Disease (Terrier Type)	WT/WT
Severe Combined Immunodeficiency Disease (Wetterhoun Type)	WT/WT

Severe Combined Immunodeficiency Disease, X-Linked (Basset Hound Type)	WT/WT
Severe Combined Immunodeficiency Disease, X-Linked (Corgi Type)	WT/WT
Shar-Pei Autoinflammatory Disease	WT/WT
Skeletal Dysplasia 2	WT/WT
Spinal Dysraphism	WT/WT
Spinocerebellar Ataxia	WT/WT
Spondylocostal Dysostosis	WT/WT
Stargardt Disease	WT/WT
Startle Disease	WT/WT
Thrombopathia (American Eskimo Dog Type)	WT/WT
Thrombopathia (Basset Hound Type)	WT/WT
Thrombopathia (Newfoundland Type)	WT/WT
Trapped Neutrophil Syndrome	WT/WT
Urolithiasis (Native American Indian Dog Type)	WT/WT
Van Den Ende-Gupta Syndrome	WT/WT
Von Willebrand Disease I	WT/WT
Von Willebrand Disease II	WT/WT
Von Willebrand Disease III (Kooikerhondje Type)	WT/WT
Von Willebrand Disease III (Scottish Terrier Type)	WT/WT
Von Willebrand Disease III (Shetland Sheepdog Type)	WT/WT



Helen F Smith, PhD

Associate Laboratory Director

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