AKC DNA PROGRAM
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Customer & Pet Information

Registered Name	Lutz Von Holtz	Registration #	DN70719104
Breed	German Shepherd Dog	Tattoo	-
Sex	Male	Microchip	
DOB	Feb 1, 2022	Lab Sample ID	55885534
		AKC Sample ID	40014169
		Report Date	Nov 14, 2025

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. 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.

Breed Profile

Disease Name	Genotype	Interpretation

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

Coat Colors & Traits

Trait Name	Genotype	Interpretation
A Locus (Agouti)	a/a	Bicolor/solid
A^s Locus (Saddle Tan)	A^s/A^s	Saddle tan/creeping tan
B Locus (Brown)	B/B	Black coat, nose and foot pads (does not carry brown)
B Locus (Brown) - b^a	0	
B Locus (Brown) - b^c	0	
B Locus (Brown) - b^d	0	
B Locus (Brown) - b^h	0	
B Locus (Brown) - b^e	0	
B Locus (Brown) - b^s	0	
Brachycephaly	BR/BR	Likely medium to long muzzle
Chondrodysplasia (CDPA)	cd/cd	No Leg Shortening Associated with CDPA
Co Locus (Cocoa, French Bulldog Type)	CO/CO	Black coat, nose and foot pads (does not carry cocoa)
Cu Locus (Curly Hair)	Cu/Cu	Straight coat
D Locus (Dilute)	D/D	Non-dilute (does not carry dilute)
D Locus (Dilute) - d^1	0	
D Locus (Dilute) - d^2	0	
D Locus (Dilute) - d^3	0	
E Locus	E^m/E	Melanistic Mask - Carrier (Black)
E Locus - E^m (Melanistic Mask)	1	
E Locus - E^g (Grizzle, Afghan Hound Type)	0	
E Locus - E^h (Sable, Cocker Spaniel Type)	0	
E Locus - e^A (Ancient Red, Spitz and Scent Hound Type)	0	
E Locus - e^1 (Yellow/Red)	0	
E Locus - e^2 (Cream, Australian Cattle Dog Type)	0	
E Locus - e^3 (White, Alaskan and Siberian Husky Type)	0	
H Locus (Harlequin, Great Dane type)	h/h	No harlequin

Hairlessness	Rh/Rh	Coated
Hairlessness (American Hairless Terrier Type) - rh^1	0	
Hairlessness (Scottish Deerhound Type) - rh^2	0	
I Locus (Intensity)	I/I	Normal intensity
IC locus (Improper Coat/Furnishings)	IC/IC	No furnishings, improper coat
K Locus (Dominant Black)	k^y/k^y	Agouti expression allowed
L Locus (Long Hair/Fluffy)	Sh/Sh	Shorthaired (does not carry long hair)
L Locus (Long Hair/Fluffy) - Lh^1	0	
L Locus (Long Hair/Fluffy) - Lh^2	0	
L Locus (Long Hair/Fluffy) - Lh^3	0	
L Locus (Long Hair/Fluffy) - Lh^4	0	
M Locus (Merle)	m/m	Non merle
Polydactyly (Common Variant)	pd/pd	Normal (typical) toes (likely no hind dewclaws)
Polydactyly (Great Pyrenees Type)	pd/pd	Normal (typical) toes (likely no double hind dewclaws)
R Locus (Roan/Ticked)	r/r	No roan or ticking
R Locus (Roan/Ticked) - R^{ti}	0	
R Locus (Roan/Ticked) - R	0	
S Locus (White Spotting, Parti, or Piebald)	S/S	No white spotting, flash, parti, or piebald
SD Locus (Shedding)	SD/SD	High shedding
Sex Determination - ZFXY	X/Y	Male
Social Behavior	WT/M, WT/WT	May demonstrate more social behavior
Social Behavior, Variant 1	1	
Social Behavior, Variant 2	0	
T locus (Natural Bobtail)	t/t	Normal tail

Determinants of coat colors and traits are complex. Many of these variants are known and many of the genes screened by AKC DNA 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 AKC DNA 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.

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

Diseases

Disease Name	Genotype	Interpretation
Acral Mutilation Syndrome	WT/WT	Normal (Clear)

Acute Respiratory Distress Syndrome	WT/WT	Normal (Clear)
Adult Paroxysmal Dyskinesia	WT/WT	Normal (Clear)
Afibrinogenemia (Dachshund Type)	WT/WT	Normal (Clear)
Alaskan Husky Encephalopathy	WT/WT	Normal (Clear)
Alaskan Malamute Polyneuropathy	WT/WT	Normal (Clear)
Amelogenesis Imperfecta (Italian Greyhound Type)	WT/WT	Normal (Clear)
Amelogenesis Imperfecta (Parson Russell Terrier Type)	WT/WT	Normal (Clear)
Ataxia (Norwegian Buhund Type)	WT/WT	Normal (Clear)
Benign Familial Juvenile Epilepsy	WT/WT	Normal (Clear)
Bernard-Soulier Syndrome	WT/WT	Normal (Clear)
Canine Multiple System Degeneration (Chinese Crested type)	WT/WT	Normal (Clear)
Canine Multiple System Degeneration (Kerry Blue Terrier type)	WT/WT	Normal (Clear)
Canine Scott Syndrome	WT/WT	Normal (Clear)
Cardiomyopathy and Juvenile Mortality	WT/WT	Normal (Clear)
Catalase Deficiency	WT/WT	Normal (Clear)
Centronuclear Myopathy	WT/WT	Normal (Clear)
Cerebellar Ataxia (Finnish Hound Type)	WT/WT	Normal (Clear)
Cerebellar Ataxia 1 (Belgian Shepherd Type)	WT/WT	Normal (Clear)
Cerebellar Ataxia 2 (Belgian Shepherd Type)	WT/WT	Normal (Clear)
Cerebellar Cortical Degeneration	WT/WT	Normal (Clear)
Cerebellar Degeneration	WT/WT	Normal (Clear)
Charcot-Marie-Tooth Disease	WT/WT	Normal (Clear)
Chondrodysplasia (Karelian Bear Dog and Norwegian Elkhound type)	WT/WT	Normal (Clear)
Chondrodystrophy with Intervertebral Disc Disease Risk Factor (CDDY with IVDD)	WT/WT	Normal (Clear) - No CDDY or Increased IVDD Risk
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 Macrothrombocytopenia (Cairn and Norfolk Terrier Type)	WT/WT	Normal (Clear)
Congenital Methemoglobinemia	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome (Golden Retriever Type)	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)
Copper Storage Disease	WT/WT	Normal (Clear)
Craniomandibular Osteopathy	WT/WT	Normal (Clear)
Cyclic Neutropenia	WT/WT	Normal (Clear)
Cystinuria (Australian Cattle Dog Type)	WT/WT	Normal (Clear)
Cystinuria (Labrador Retriever Type)	WT/WT	Normal (Clear)
Cystinuria (Miniature Pinscher Type)	WT/WT	Normal (Clear)
Cystinuria (Newfoundland Type)	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, Variants 1)	0	
Cystinuria Type 3 (Bulldog Type Risk Factor, Variants 2)	0	
Dandy-Walker-Like Malformation	WT/WT	Normal (Clear)
Darier Disease and Associated Infundibular Cyst Formation	WT/WT	Normal (Clear)
Deafness and Vestibular Dysfunction (Doberman Pinscher Type), Variant 2	WT/WT	Normal (Clear)
Degenerative Myelopathy (Bernese Mountain Dog Variant)	WT/WT	Normal (Clear)
Degenerative Myelopathy (Common Variant)	WT/M	Carrier
Degenerative Myelopathy Early-Onset Risk Modifier (Pembroke Welsh Corgi Type)	WT/WT	Normal (Clear)
Dental Hypomineralization	WT/WT	Normal (Clear)
Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis	WT/WT	Normal (Clear)
Dilated Cardiomyopathy (Doberman Pinscher Type Risk Factor, Variant 1)	WT/WT	Normal (Clear)

Dilated Cardiomyopathy (Doberman Pinscher Type Risk Factor, Variant 2)	WT/WT	Normal (Clear)
Dilated Cardiomyopathy (Schnauzer Type)	WT/WT	Normal (Clear)
Dry Eye Curly Coat Syndrome	WT/WT	Normal (Clear)
Dystrophic Epidermolysis Bullosa (Golden Retriever Type)	WT/WT	Normal (Clear)
Early Onset Adult Deafness (Rhodesian Ridgeback Type)	WT/WT	Normal (Clear)
Early Retinal Degeneration	WT/WT	Normal (Clear)
Early-Onset Epilepsy (Parson Russell Terrier Type)	WT/WT	Normal (Clear)
Ectodermal Dysplasia (Chesapeake Bay Retriever Type)	WT/WT	Normal (Clear)
Ectodermal Dysplasia, X-Linked (Dachshund Type)	WT/Y	X-Linked Male Normal
Ectodermal Dysplasia, X-Linked (Shepherd Type)	WT/Y	X-Linked Male Normal
Ehlers-Danlos Syndrome (Doberman Pinscher Type)	WT/WT	Normal (Clear)
Ehlers-Danlos Syndrome (Labrador Retriever Type), Variant 1	WT/WT	Normal (Clear)
Ehlers-Danlos Syndrome (Labrador Retriever Type), Variant 2	WT/WT	Normal (Clear)
Ehlers-Danlos Syndrome (Poodle Type, Variants 1 and 2)	WT/WT	Normal (Clear)
Ehlers-Danlos Syndrome (Poodle Type), Variant 1	0	
Ehlers-Danlos Syndrome (Poodle Type), Variant 2	0	
Elliptocytosis	WT/WT	Normal (Clear)
Epidermolytic Hyperkeratosis	WT/WT	Normal (Clear)
Episodic Falling Syndrome	WT/WT	Normal (Clear)
Exercise-Induced Collapse	WT/WT	Normal (Clear)
Exfoliative Cutaneous Lupus Erythematosus (ECLE)	WT/WT	Normal (Clear)
Factor XI Deficiency	WT/WT	Normal (Clear)
Familial Nephropathy (Cocker Spaniel Type)	WT/WT	Normal (Clear)
Familial Nephropathy (English Springer Spaniel Type)	WT/WT	Normal (Clear)
Fucosidosis	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 Ia	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)
GM2 Gangliosidosis (Shiba Inu Type)	WT/WT	Normal (Clear)
Greyhound Polyneuropathy	WT/WT	Normal (Clear)
Hemophilia A (Boxer Type)	WT/Y	X-Linked Male Normal
Hemophilia A (German Shepherd Dog, Type 1)	WT/Y	X-Linked Male Normal
Hemophilia A (German Shepherd Dog, Type 2)	WT/Y	X-Linked Male Normal
Hemophilia A (Rhodesian Ridgeback Type)	WT/Y	X-Linked Male Normal
Hemophilia B (Cairn Terrier Type)	WT/Y	X-Linked Male Normal
Hemophilia B (Lhasa Apso type)	WT/Y	X-Linked Male Normal
Hemophilia B (Rhodesian Ridgeback Type)	WT/Y	X-Linked Male Normal
Hereditary Ataxia (Australian Shepherd Type)	WT/WT	Normal (Clear)
Hereditary Cataracts	WT/WT	Normal (Clear)
Hereditary Cataracts (Australian Shepherd Type)	WT/WT	Normal (Clear)
Hereditary Cataracts (Wirehaired Pointing Griffon Type)	WT/WT	Normal (Clear)
Hereditary Footpad Hyperkeratosis (Irish Terrier and Kromfohrlander Type)	WT/WT	Normal (Clear)
Hereditary Footpad Hyperkeratosis (Rottweiler Type)	WT/WT	Normal (Clear)
Hereditary Nasal Parakeratosis (Greyhound Type)	WT/WT	Normal (Clear)
Hereditary Nasal Parakeratosis (Labrador Retriever Type)	WT/WT	Normal (Clear)
Hereditary Nephritis (Samoyed type)	WT/Y	X-Linked Male Normal
Hyperuricosuria	WT/WT	Normal (Clear)
Hypomyelination (Weimaraner Type)	WT/WT	Normal (Clear)

Ichthyosis (American Bulldog Type)	WT/WT	Normal (Clear)
Ichthyosis (Golden Retriever Type 1)	WT/WT	Normal (Clear)
Ichthyosis (Golden Retriever Type 2)	WT/WT	Normal (Clear)
Ichthyosis (Great Dane Type)	WT/WT	Normal (Clear)
Ichthyosis (Jack Russell Terrier Type)	WT/WT	Normal (Clear)
Inflammatory Myopathy (Shepherd Type)	WT/WT	Normal (Clear)
Inherited Myopathy of Great Danes	WT/WT	Normal (Clear)
Intestinal Cobalamin Malabsorption (Beagle Type)	WT/WT	Normal (Clear)
Intestinal Cobalamin Malabsorption (Border Collie Type)	WT/WT	Normal (Clear)
Junctional Epidermolysis Bullosa (Australian Shepherd Type)	WT/WT	Normal (Clear)
Juvenile Laryngeal Paralysis and Polyneuropathy (Black Russian Terrier Type)	WT/WT	Normal (Clear)
Juvenile Myoclonic Epilepsy (Rhodesian Ridgeback Type)	WT/WT	Normal (Clear)
L-2-Hydroxyglutaric Aciduria (Staffordshire Bull Terrier type)	WT/WT	Normal (Clear)
L-2-Hydroxyglutaric Aciduria (Yorkshire Terrier Type)	WT/WT	Normal (Clear)
Lagotto Storage Disorder	WT/WT	Normal (Clear)
Laryngeal Paralysis and Polyneuropathy (Leonberger Type 3)	WT/WT	Normal (Clear)
Late Onset Ataxia	WT/WT	Normal (Clear)
Lethal Acrodermatitis	WT/WT	Normal (Clear)
Leukocyte Adhesion Deficiency, Type I	WT/WT	Normal (Clear)
Leukocyte Adhesion Deficiency, Type III	WT/WT	Normal (Clear)
Ligneous Membranitis	WT/WT	Normal (Clear)
Limb-Girdle Muscular Dystrophy (Dachshund Type)	WT/WT	Normal (Clear)
Lundehund Syndrome	WT/WT	Normal (Clear)
Macular Corneal Dystrophy (Labrador Retriever Type)	WT/WT	Normal (Clear)
Mammary Tumors (English Springer Spaniel Type Risk Factor)	WT/WT	Normal (Clear)
May-Hegglin Anomaly	WT/WT	Normal (Clear)
Microphthalmia (Soft Coated Wheaten Terrier Type)	WT/WT	Normal (Clear)
Mucopolysaccharidosis I (Plott Hound Type)	WT/WT	Normal (Clear)
Mucopolysaccharidosis IIIA (Dachshund Type)	WT/WT	Normal (Clear)
Mucopolysaccharidosis IIIA (New Zealand Huntaway type)	WT/WT	Normal (Clear)

Mucopolysaccharidosis IIIB (Schipperke Type)	WT/WT	Normal (Clear)
Mucopolysaccharidosis VI (Miniature Schnauzer Type)	WT/WT	Normal (Clear)
Mucopolysaccharidosis VII (Brazilian Terrier 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)
Muscular Dystrophy (Golden Retriever Type)	WT/Y	X-Linked Male Normal
Musladin-Lueke Syndrome	WT/WT	Normal (Clear)
Myostatin Deficiency (Whippet Type)	WT/WT	Normal (Clear)
Myotonia Congenita (Australian Cattle Dog type)	WT/WT	Normal (Clear)
Myotonia Congenita (Labrador Retriever Type)	WT/WT	Normal (Clear)
Myotonia Congenita (Schnauzer Type)	WT/WT	Normal (Clear)
Myotubular Myopathy 1 (Boykin Spaniel Type)	WT/Y	X-Linked Male Normal
Myotubular Myopathy 1 (Labrador Retriever Type)	WT/Y	X-Linked Male Normal
Myotubular Myopathy 1 (Rottweiler Type)	WT/Y	X-Linked Male Normal
Narcolepsy (Dachshund Type)	WT/WT	Normal (Clear)
Narcolepsy (Doberman Pinscher Type)	WT/WT	Normal (Clear)
Narcolepsy (Labrador Retriever Type)	WT/WT	Normal (Clear)
Neonatal Ataxia	WT/WT	Normal (Clear)
Neonatal Cerebellar Cortical Degeneration	WT/WT	Normal (Clear)
Neonatal Encephalopathy with Seizures	WT/WT	Normal (Clear)
Neuroaxonal Dystrophy (Giant Schnauzer Type)	WT/WT	Normal (Clear)
Neuroaxonal Dystrophy (Papillon Type)	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 (Golden Retriever Type)	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 5 (Herding Dog 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)
Nonsyndromic Hearing Loss (Rottweiler Type)	WT/WT	Normal (Clear)
Oculocutaneous Albinism (Small Breed Type)	WT/WT	Normal (Clear)
Osteochondrodysplasia	WT/WT	Normal (Clear)
Osteogenesis Imperfecta (Beagle Type)	WT/WT	Normal (Clear)
Osteogenesis Imperfecta (Dachshund Type)	WT/WT	Normal (Clear)
Osteogenesis Imperfecta (Golden Retriever Type)	WT/WT	Normal (Clear)
P2RY12 Receptor Platelet Disorder	WT/WT	Normal (Clear)
Pancreatitis (Miniature Schnauzer Type Risk Factor)	WT/WT	Normal (Clear)
Pancreatitis (Miniature Schnauzer Type Risk Factor), Variant 1	0	
Pancreatitis (Miniature Schnauzer Type Risk Factor), Variant 2	0	
Pancreatitis (Miniature Schnauzer Type Risk Factor), Variant 3	0	
Pembroke Welsh Corgi Duchenne Muscular Dystrophy	WT/Y	X-Linked Male Normal
Persistent Mullerian Duct Syndrome	WT/WT	Normal (Clear)
Pituitary Dwarfism (Shepherd Type)	WT/WT	Normal (Clear)
Polyneuropathy (Leonberger Type 1)	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)
Prekallikrein Deficiency	WT/WT	Normal (Clear)
Primary Ciliary Dyskinesia (Alaskan Malamute Type)	WT/WT	Normal (Clear)
Primary Ciliary Dyskinesia (Old English Sheepdog Type)	WT/WT	Normal (Clear)

Primary Hyperoxaluria	WT/WT	Normal (Clear)
Primary Lens Luxation	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma (Basset Fauve de Bretagne Type)	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma (Norwegian Elkhound Type)	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma and Primary Lens Luxation (Shar Pei Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy (Basenji Type)	WT/WT	Normal (Clear)
Progressive retinal Atrophy (Bullmastiff/Mastiff Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy (Giant Schnauzer Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy (Irish Setter Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy (Shetland Sheepdog Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy (Sloughi Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 1 (American Staffordshire Terrier Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 2 (American Staffordshire Terrier Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Early Onset (Spanish Water Dog Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Early-Onset (Portuguese Water Dog Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Generalized (Schapendoes Type)	WT/WT	Normal (Clear)
Progressive retinal Atrophy, Golden Retriever 1	WT/WT	Normal (Clear)
Progressive retinal Atrophy, Golden Retriever 2	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Late-Onset (Lapponian Herder Type)	WT/WT	Normal (Clear)
Progressive retinal Atrophy, PRA1 (Papillon Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, PRA3 (Tibetan Terrier and Spaniel Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Rod-Cone Dysplasia 3	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Rod-Cone Dysplasia 4	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Syndromic Retinal Degeneration (Shetland Sheepdog Type)	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, X-Linked 1 (Husky Type)	WT/Y	X-Linked Male Normal
Progressive Retinal Atrophy, X-linked 2	WT/Y	X-Linked Male Normal

Protein Losing Nephropathy	WT/WT, WT/WT	Normal (Clear) - No Increased Risk
Protein Losing Nephropathy (Variant 1)	0	
Protein Losing Nephropathy (Variant 2)	0	
Pyruvate Dehydrogenase Deficiency	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency (Basenji type)	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency (Beagle 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 (Terrier type)	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)
Severe Combined Immunodeficiency Disease (Wetterhoun Type)	WT/WT	Normal (Clear)
Severe Combined Immunodeficiency Disease, X-Linked (Basset Hound Type)	WT/Y	X-Linked Male Normal
Severe Combined Immunodeficiency Disease, X-Linked (Corgi type)	WT/Y	X-Linked Male Normal
Shar-Pei Autoinflammatory Disease	WT/WT	Normal (Clear)
Skeletal Dysplasia 2	WT/WT	Normal (Clear)
Spinal Dysraphism	WT/WT	Normal (Clear)
Spinocerebellar Ataxia (Alpine Dachsbrake Type)	WT/WT	Normal (Clear)
Spinocerebellar Ataxia (Terrier Type)	WT/WT	Normal (Clear)
Spondylocostal Dysostosis	WT/WT	Normal (Clear)
Stargardt Disease	WT/WT	Normal (Clear)
Subacute Necrotizing Encephalopathy (Yorkshire Terrier Type)	WT/WT	Normal (Clear)
Thrombopathia (American Eskimo Dog Type)	WT/WT	Normal (Clear)
Thrombopathia (Basset Hound Type)	WT/WT	Normal (Clear)
Thrombopathia (Newfoundland Type)	WT/WT	Normal (Clear)
Trapped Neutrophil Syndrome	WT/WT	Normal (Clear)

Ullrich Congenital Muscular Dystrophy (Labrador Retriever Type 1)	WT/WT	Normal (Clear)
Ullrich Congenital Muscular Dystrophy (Labrador Retriever Type 2)	WT/WT	Normal (Clear)
Urolithiasis (Native American Indian Dog Type)	WT/WT	Normal (Clear)
Van Den Ende-Gupta Syndrome	WT/WT	Normal (Clear)
Von Willebrand Disease I	WT/WT	Normal (Clear)
Von Willebrand Disease II	WT/WT	Normal (Clear)
Von Willebrand Disease III (Kooikerhondje Type)	WT/WT	Normal (Clear)
Von Willebrand Disease III (Scottish Terrier Type)	WT/WT	Normal (Clear)
Von Willebrand Disease III (Shetland Sheepdog Type)	WT/WT	Normal (Clear)

AKC DNA PROGRAM

AKC DNA Profile

DNA Profile#: **V40014169**
Sex: **Male**
Date of Birth: **02/01/2022**
ID #:
Date of Analysis: **11/14/2025**
AKC #: **DN70719104**
Breed: **German Shepherd Dog**
AKC Name: **Lutz Von Holtz**
Owner(s): **Benuel Stoltzfus**

CC	AA	GG	AG	GG	AG	AG	AG	GG	AA	AA	AG	AG	GG	AG	AG	AG	AA	AG	GG	AA	AG	AG	GG	AA
AKC001	AKC002	AKC003	AKC004	AKC005	AKC006	AKC007	AKC008	AKC009	AKC010	AKC011	AKC012	AKC013	AKC014	AKC015	AKC016	AKC017	AKC018	AKC019	AKC020	AKC021	AKC022	AKC023	AKC024	AKC025
AA	CG	AA	GG	AC	GG	AA	GG	AA	AG	GG	AA	AG	GG	AA	AG	AG	AA	GG	AA	CC	GG	AG	AG	AA
AKC026	AKC027	AKC028	AKC029	AKC030	AKC031	AKC032	AKC033	AKC034	AKC035	AKC036	AKC037	AKC038	AKC039	AKC040	AKC041	AKC042	AKC043	AKC044	AKC045	AKC046	AKC047	AKC048	AKC049	AKC050
GG	AA	GG	AG	GG	GG	AG	GG	GG		AG	AA	AC	AA	AA	CC	CG	AG	GG	AG	AG	AA	AA	AG	AG
AKC051	AKC052	AKC053	AKC054	AKC055	AKC056	AKC057	AKC058	AKC059	AKC060	AKC061	AKC062	AKC063	AKC064	AKC065	AKC066	AKC067	AKC068	AKC069	AKC070	AKC071	AKC072	AKC073	AKC074	AKC075
AA	AG	GG	AC	AG	GG	AA	AA	AC	AA	AC	GG	GG	GG	GG	AG	AA	AG	GG	AG	CC	AG	AC	AA	AG
AKC076	AKC077	AKC078	AKC079	AKC080	AKC081	AKC082	AKC083	AKC084	AKC085	AKC086	AKC087	AKC088	AKC089	AKC090	AKC091	AKC092	AKC093	AKC094	AKC095	AKC096	AKC097	AKC098	AKC099	AKC100
AG	GG	TT	AA	AG	AG	AG	AG	AA	GG	GG	CC	GG	AA	AA	CC	GG	AA	GG	GG	AA	AA	AA	GG	AA
AKC101	AKC102	AKC103	AKC104	AKC105	AKC106	AKC107	AKC108	AKC109	AKC110	AKC111	AKC112	AKC113	AKC114	AKC115	AKC116	AKC117	AKC118	AKC119	AKC120	AKC121	AKC122	AKC123	AKC124	AKC125
AA	AA	AA	AA	AG	AG	AA	AA	GG	AA	GG	AG	CC	AA	AG	GG	AG	AG	CC	AG	AA	AG	AC	CC	AA
AKC126	AKC127	AKC128	AKC129	AKC130	AKC131	AKC132	AKC133	AKC134	AKC135	AKC136	AKC137	AKC138	AKC139	AKC140	AKC141	AKC142	AKC143	AKC144	AKC145	AKC146	AKC147	AKC148	AKC149	AKC150
GG	AG	AA	GG	AG	AG	AC	AG	GG	GG	AG	AC	AA	GG	AG	AG	AA	AG	GG	GG	AA	AT	AA	AG	AG
AKC151	AKC152	AKC153	AKC154	AKC155	AKC156	AKC157	AKC158	AKC159	AKC160	AKC161	AKC162	AKC163	AKC164	AKC165	AKC166	AKC167	AKC168	AKC169	AKC170	AKC171	AKC172	AKC173	AKC174	AKC175
AG	AA	GG	CC	AA	AA	GG	AA	AA	GG	GG	GG	CG	GG	AG	AA	AG	GG	GG	AG	GG	AA	AA	GG	CC
AKC176	AKC177	AKC178	AKC179	AKC180	AKC181	AKC182	AKC183	AKC184	AKC185	AKC186	AKC187	AKC188	AKC189	AKC190	AKC191	AKC192	AKC193	AKC194	AKC195	AKC196	AKC197	AKC198	AKC199	AKC200

XY
AKC201

Dr. Jerry Klein, DVM, Chief Veterinary Officer
American Kennel Club

Dr. Jiansheng Qiu, Directory of Quality
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