JERRY

Veterinary Report by Embark

embarkvet.com

Test Date: January 29th, 2022

Customer-supplied information

Owner Name: Kimberly Clinton
Dog Name: Jerry
Sex: Male (intact)
Date of birth: 11/08/21

Breed type: N/A
Breed: Bernedoodle
Breed registration: N/A
Microchip: N/A

Genetic summary

Genetic breed identification:
Bernedoodle

Breed ancestry:

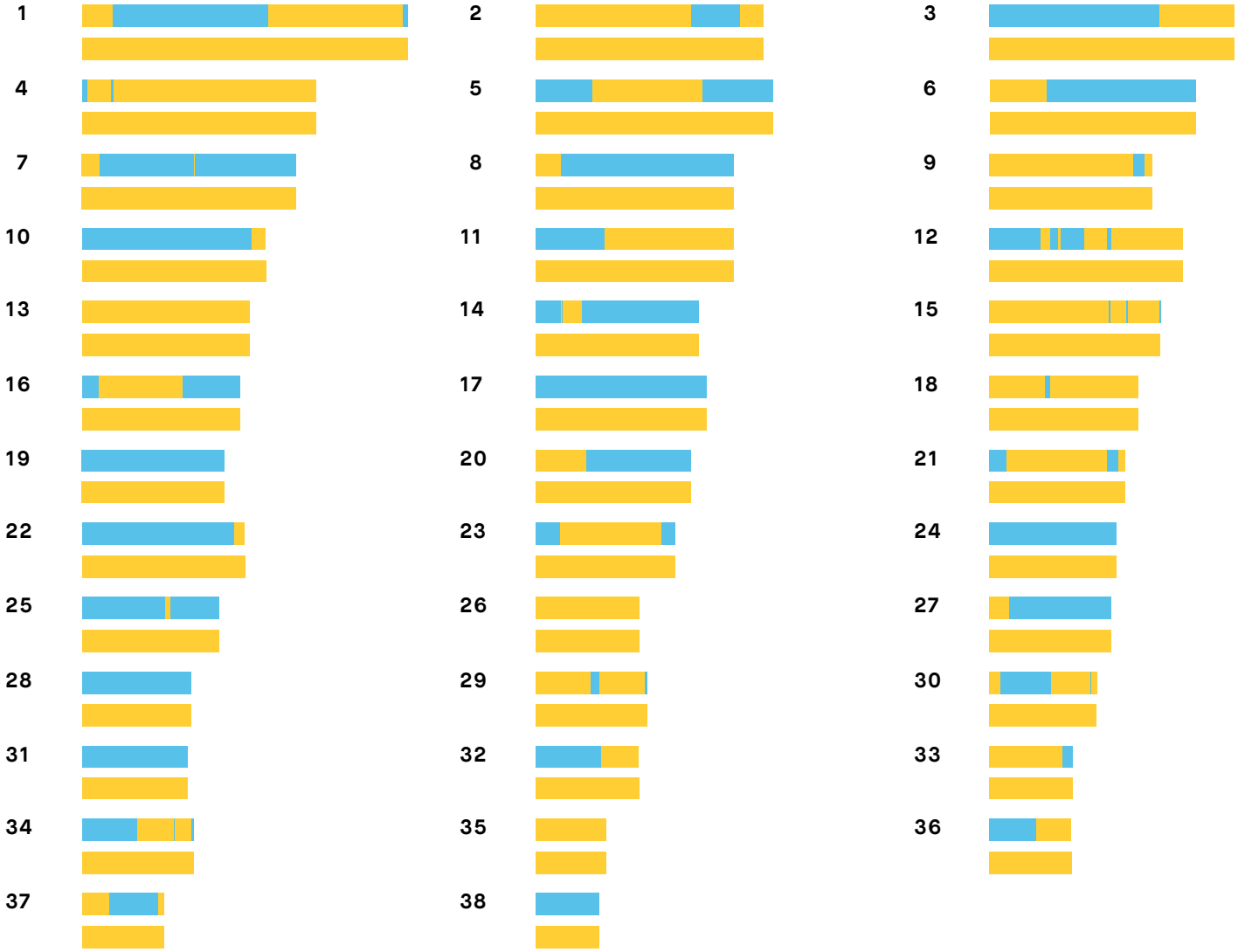
Poodle (Small): 73.0%


Bernese Mountain Dog: 27.0%

Predicted adult weight: **41 lbs**
Calculated from 17 size genes.

Life stage: **Young adult**
Based on date of birth provided.

Karyogram (Chromosome painting)



Health Report

How to interpret Jerry's genetic health results:

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

A genetic test is not a diagnosis

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

Summary

Of the 241 genetic health risks we analyzed, we found 2 results that you should learn about.

Notable results (2)

ALT Activity

Methemoglobinemia

Clear results

Breed-relevant (7)

Other (232)

Health Report

BREED-RELEVANT RESULTS

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

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

Health Report

OTHER RESULTS

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

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

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OTHER RESULTS

Canine Multifocal Retinopathy, cmr3 (BEST1 Exon 10 Deletion, Finnish and Swedish Lapphund, Lapponian Herder Variant)	Clear
Canine Multiple System Degeneration (SERAC1 Exon 4, Chinese Crested Variant)	Clear
Canine Multiple System Degeneration (SERAC1 Exon 15, Kerry Blue Terrier Variant)	Clear
Cardiomyopathy and Juvenile Mortality (YARS2)	Clear
Centronuclear Myopathy, CNM (PTPLA)	Clear
Cerebellar Hypoplasia (VLDLR, Eurasier Variant)	Clear
Chondrodysplasia (ITGA10, Norwegian Elkhound and Karelian Bear Dog Variant)	Clear
Cleft Lip and/or Cleft Palate (ADAMTS20, Nova Scotia Duck Tolling Retriever Variant)	Clear
Cleft Palate, CP1 (DLX6 intron 2, Nova Scotia Duck Tolling Retriever Variant)	Clear
Cobalamin Malabsorption (CUBN Exon 8, Beagle Variant)	Clear
Cobalamin Malabsorption (CUBN Exon 53, Border Collie Variant)	Clear
Collie Eye Anomaly (NHEJ1)	Clear
Complement 3 Deficiency, C3 Deficiency (C3)	Clear
Congenital Hypothyroidism (TPO, Rat, Toy, Hairless Terrier Variant)	Clear
Congenital Hypothyroidism (TPO, Tenterfield Terrier Variant)	Clear
Congenital Hypothyroidism with Goiter (SLC5A5, Shih Tzu Variant)	Clear
Congenital Macrothrombocytopenia (TUBB1 Exon 1, Cairn and Norfolk Terrier Variant)	Clear
Congenital Myasthenic Syndrome, CMS (COLQ, Labrador Retriever Variant)	Clear

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OTHER RESULTS

Congenital Myasthenic Syndrome, CMS (COLQ, Golden Retriever Variant)	Clear
Congenital Myasthenic Syndrome, CMS (CHAT, Old Danish Pointing Dog Variant)	Clear
Congenital Myasthenic Syndrome, CMS (CHRNE, Jack Russell Terrier Variant)	Clear
Congenital Stationary Night Blindness (LRIT3, Beagle Variant)	Clear
Congenital Stationary Night Blindness (RPE65, Briard Variant)	Clear
Craniomandibular Osteopathy, CMO (SLC37A2)	Clear
Cystinuria Type I-A (SLC3A1, Newfoundland Variant)	Clear
Cystinuria Type II-A (SLC3A1, Australian Cattle Dog Variant)	Clear
Cystinuria Type II-B (SLC7A9, Miniature Pinscher Variant)	Clear
Day Blindness (CNGB3 Deletion, Alaskan Malamute Variant)	Clear
Day Blindness (CNGA3 Exon 7, German Shepherd Variant)	Clear
Day Blindness (CNGA3 Exon 7, Labrador Retriever Variant)	Clear
Day Blindness (CNGB3 Exon 6, German Shorthaired Pointer Variant)	Clear
Deafness and Vestibular Syndrome of Dobermans, DVDob, DINGS (MYO7A)	Clear
Demyelinating Polyneuropathy (SBF2/MTRM13)	Clear
Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis (INPP5E Intron 9, Norwich Terrier Variant)	Clear
Dilated Cardiomyopathy, DCM (RBM20, Schnauzer Variant)	Clear
Dilated Cardiomyopathy, DCM1 (PDK4, Doberman Pinscher Variant 1)	Clear

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OTHER RESULTS

Dilated Cardiomyopathy, DCM2 (TTN, Doberman Pinscher Variant 2)	Clear
Dry Eye Curly Coat Syndrome (FAM83H Exon 5)	Clear
Dystrophic Epidermolysis Bullosa (COL7A1, Central Asian Shepherd Dog Variant)	Clear
Dystrophic Epidermolysis Bullosa (COL7A1, Golden Retriever Variant)	Clear
Early Bilateral Deafness (LOXHD1 Exon 38, Rottweiler Variant)	Clear
Early Onset Cerebellar Ataxia (SEL1L, Finnish Hound Variant)	Clear
Ehlers Danlos (ADAMTS2, Doberman Pinscher Variant)	Clear
Enamel Hypoplasia (ENAM Deletion, Italian Greyhound Variant)	Clear
Enamel Hypoplasia (ENAM SNP, Parson Russell Terrier Variant)	Clear
Episodic Falling Syndrome (BCAN)	Clear
Exercise-Induced Collapse, EIC (DNM1)	Clear
Factor VII Deficiency (F7 Exon 5)	Clear
Factor XI Deficiency (F11 Exon 7, Kerry Blue Terrier Variant)	Clear
Familial Nephropathy (COL4A4 Exon 3, Cocker Spaniel Variant)	Clear
Familial Nephropathy (COL4A4 Exon 30, English Springer Spaniel Variant)	Clear
Fanconi Syndrome (FAN1, Basenji Variant)	Clear
Fetal-Onset Neonatal Neuroaxonal Dystrophy (MFN2, Giant Schnauzer Variant)	Clear
Glanzmann's Thrombasthenia Type I (ITGA2B Exon 13, Great Pyrenees Variant)	Clear

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OTHER RESULTS

Glanzmann's Thrombasthenia Type I (ITGA2B Exon 12, Otterhound Variant)	Clear
Globoid Cell Leukodystrophy, Krabbe disease (GALC Exon 5, Terrier Variant)	Clear
Glycogen Storage Disease Type IA, Von Gierke Disease, GSD IA (G6PC, Maltese Variant)	Clear
Glycogen Storage Disease Type IIIA, GSD IIIA (AGL, Curly Coated Retriever Variant)	Clear
Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM, Whippet and English Springer Spaniel Variant)	Clear
Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM, Wachtelhund Variant)	Clear
GM1 Gangliosidosis (GLB1 Exon 2, Portuguese Water Dog Variant)	Clear
GM1 Gangliosidosis (GLB1 Exon 15, Shiba Inu Variant)	Clear
GM1 Gangliosidosis (GLB1 Exon 15, Alaskan Husky Variant)	Clear
GM2 Gangliosidosis (HEXA, Japanese Chin Variant)	Clear
Golden Retriever Progressive Retinal Atrophy 1, GR-PRA1 (SLC4A3)	Clear
Golden Retriever Progressive Retinal Atrophy 2, GR-PRA2 (TTC8)	Clear
Goniodysgenesis and Glaucoma, Pectinate Ligament Dysplasia, PLD (OLFM3)	Clear
Hemophilia A (F8 Exon 11, German Shepherd Variant 1)	Clear
Hemophilia A (F8 Exon 1, German Shepherd Variant 2)	Clear
Hemophilia A (F8 Exon 10, Boxer Variant)	Clear
Hemophilia B (F9 Exon 7, Terrier Variant)	Clear
Hemophilia B (F9 Exon 7, Rhodesian Ridgeback Variant)	Clear

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OTHER RESULTS

Hereditary Ataxia, Cerebellar Degeneration (RAB24, Old English Sheepdog and Gordon Setter Variant)	Clear
Hereditary Cataracts (HSF4 Exon 9, Australian Shepherd Variant)	Clear
Hereditary Footpad Hyperkeratosis (FAM83G, Terrier and Kromfohrlander Variant)	Clear
Hereditary Footpad Hyperkeratosis (DSG1, Rottweiler Variant)	Clear
Hereditary Nasal Parakeratosis (SUV39H2 Intron 4, Greyhound Variant)	Clear
Hereditary Nasal Parakeratosis, HNPK (SUV39H2)	Clear
Hereditary Vitamin D-Resistant Rickets (VDR)	Clear
Hypocatalasia, Acatalasemia (CAT)	Clear
Hypomyelination and Tremors (FNIP2, Weimaraner Variant)	Clear
Hypophosphatasia (ALPL Exon 9, Karelian Bear Dog Variant)	Clear
Ichthyosis (NIPAL4, American Bulldog Variant)	Clear
Ichthyosis (SLC27A4, Great Dane Variant)	Clear
Ichthyosis, Epidermolytic Hyperkeratosis (KRT10, Terrier Variant)	Clear
Ichthyosis, ICH1 (PNPLA1, Golden Retriever Variant)	Clear
Inflammatory Myopathy (SLC25A12)	Clear
Inherited Myopathy of Great Danes (BIN1)	Clear
Inherited Selected Cobalamin Malabsorption with Proteinuria (CUBN, Komondor Variant)	Clear
Junctional Epidermolysis Bullosa (LAMA3 Exon 66, Australian Cattle Dog Variant)	Clear

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OTHER RESULTS

Junctional Epidermolysis Bullosa (LAMB3 Exon 11, Australian Shepherd Variant)	Clear
Juvenile Epilepsy (LGI2)	Clear
Juvenile Laryngeal Paralysis and Polyneuropathy (RAB3GAP1, Rottweiler Variant)	Clear
Juvenile Myoclonic Epilepsy (DIRAS1)	Clear
L-2-Hydroxyglutaricaciduria, L2HGA (L2HGDH, Staffordshire Bull Terrier Variant)	Clear
Lagotto Storage Disease (ATG4D)	Clear
Laryngeal Paralysis (RAPGEF6, Miniature Bull Terrier Variant)	Clear
Late Onset Spinocerebellar Ataxia (CAPN1)	Clear
Late-Onset Neuronal Ceroid Lipofuscinosis, NCL 12 (ATP13A2, Australian Cattle Dog Variant)	Clear
Leonberger Polyneuropathy 1 (LPN1, ARHGEF10)	Clear
Leonberger Polyneuropathy 2 (GJA9)	Clear
Lethal Acrodermatitis, LAD (MKLN1)	Clear
Ligneous Membranitis, LM (PLG)	Clear
Limb Girdle Muscular Dystrophy (SGCD, Boston Terrier Variant)	Clear
Limb-Girdle Muscular Dystrophy 2D (SGCA Exon 3, Miniature Dachshund Variant)	Clear
Long QT Syndrome (KCNQ1)	Clear
Lundehund Syndrome (LEPREL1)	Clear
Macular Corneal Dystrophy, MCD (CHST6)	Clear

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Malignant Hyperthermia (RYR1)	Clear
May-Hegglin Anomaly (MYH9)	Clear
MDR1 Drug Sensitivity (ABCB1)	Clear
Microphthalmia (RBP4 Exon 2, Soft Coated Wheaten Terrier Variant)	Clear
Mucopolysaccharidosis IIIB, Sanfilippo Syndrome Type B, MPS IIIB (NAGLU, Schipperke Variant)	Clear
Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, Dachshund Variant)	Clear
Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, New Zealand Huntaway Variant)	Clear
Mucopolysaccharidosis Type VI, Maroteaux-Lamy Syndrome, MPS VI (ARSB Exon 5, Miniature Pinscher Variant)	Clear
Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 3, German Shepherd Variant)	Clear
Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 5, Terrier Brasileiro Variant)	Clear
Muscular Dystrophy (DMD, Cavalier King Charles Spaniel Variant 1)	Clear
Muscular Dystrophy (DMD, Golden Retriever Variant)	Clear
Musladin-Lueke Syndrome, MLS (ADAMTSL2)	Clear
Myasthenia Gravis-Like Syndrome (CHRNE, Heideterrier Variant)	Clear
Myotonia Congenita (CLCN1 Exon 23, Australian Cattle Dog Variant)	Clear
Myotonia Congenita (CLCN1 Exon 7, Miniature Schnauzer Variant)	Clear
Narcolepsy (HCRTR2 Exon 1, Dachshund Variant)	Clear
Narcolepsy (HCRTR2 Intron 4, Doberman Pinscher Variant)	Clear

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Narcolepsy (HCRTR2 Intron 6, Labrador Retriever Variant)	Clear
Nemaline Myopathy (NEB, American Bulldog Variant)	Clear
Neonatal Cerebellar Cortical Degeneration (SPTBN2, Beagle Variant)	Clear
Neonatal Interstitial Lung Disease (LAMP3)	Clear
Neuroaxonal Dystrophy, NAD (VPS11, Rottweiler Variant)	Clear
Neuroaxonal Dystrophy, NAD (TECPR2, Spanish Water Dog Variant)	Clear
Neuronal Ceroid Lipofuscinosis 1, NCL 1 (PPT1 Exon 8, Dachshund Variant 1)	Clear
Neuronal Ceroid Lipofuscinosis 10, NCL 10 (CTSD Exon 5, American Bulldog Variant)	Clear
Neuronal Ceroid Lipofuscinosis 2, NCL 2 (TPP1 Exon 4, Dachshund Variant 2)	Clear
Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 SNP, Border Collie Variant)	Clear
Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 Deletion, Golden Retriever Variant)	Clear
Neuronal Ceroid Lipofuscinosis 6, NCL 6 (CLN6 Exon 7, Australian Shepherd Variant)	Clear
Neuronal Ceroid Lipofuscinosis 7, NCL 7 (MFSD8, Chihuahua and Chinese Crested Variant)	Clear
Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8, Australian Shepherd Variant)	Clear
Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 Exon 2, English Setter Variant)	Clear
Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 Insertion, Saluki Variant)	Clear
Neuronal Ceroid Lipofuscinosis, Cerebellar Ataxia, NCL4A (ARSG Exon 2, American Staffordshire Terrier Variant)	Clear
Oculocutaneous Albinism, OCA (SLC45A2, Small Breed Variant)	Clear

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Oculoskeletal Dysplasia 2 (COL9A2, Samoyed Variant)	Clear
Osteogenesis Imperfecta (COL1A2, Beagle Variant)	Clear
Osteogenesis Imperfecta (SERPINH1, Dachshund Variant)	Clear
Osteogenesis Imperfecta (COL1A1, Golden Retriever Variant)	Clear
P2Y12 Receptor Platelet Disorder (P2Y12)	Clear
Pachyonychia Congenita (KRT16, Dogue de Bordeaux Variant)	Clear
Paroxysmal Dyskinesia, PxD (PIGN)	Clear
Persistent Mullerian Duct Syndrome, PMDS (AMHR2)	Clear
Pituitary Dwarfism (POU1F1 Intron 4, Karelian Bear Dog Variant)	Clear
Platelet Factor X Receptor Deficiency, Scott Syndrome (TMEM16F)	Clear
Polycystic Kidney Disease, PKD (PKD1)	Clear
Pompe's Disease (GAA, Finnish and Swedish Lapphund, Lapponian Herder Variant)	Clear
Prekallikrein Deficiency (KLKB1 Exon 8)	Clear
Primary Ciliary Dyskinesia, PCD (NME5, Alaskan Malamute Variant)	Clear
Primary Ciliary Dyskinesia, PCD (CCDC39 Exon 3, Old English Sheepdog Variant)	Clear
Primary Hyperoxaluria (AGXT)	Clear
Primary Lens Luxation (ADAMTS17)	Clear
Primary Open Angle Glaucoma (ADAMTS17 Exon 11, Basset Fauve de Bretagne Variant)	Clear

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Primary Open Angle Glaucoma (ADAMTS10 Exon 17, Beagle Variant)	Clear
Primary Open Angle Glaucoma (ADAMTS10 Exon 9, Norwegian Elkhound Variant)	Clear
Primary Open Angle Glaucoma and Primary Lens Luxation (ADAMTS17 Exon 2, Chinese Shar-Pei Variant)	Clear
Progressive Retinal Atrophy (SAG)	Clear
Progressive Retinal Atrophy (IFT122 Exon 26, Lapponian Herder Variant)	Clear
Progressive Retinal Atrophy, Bardet-Biedl Syndrome (BBS2 Exon 11, Shetland Sheepdog Variant)	Clear
Progressive Retinal Atrophy, CNGA (CNGA1 Exon 9)	Clear
Progressive Retinal Atrophy, crd1 (PDE6B, American Staffordshire Terrier Variant)	Clear
Progressive Retinal Atrophy, crd4/cord1 (RPGRIP1)	Clear
Progressive Retinal Atrophy, PRA1 (CNGB1)	Clear
Progressive Retinal Atrophy, PRA3 (FAM161A)	Clear
Progressive Retinal Atrophy, rcd1 (PDE6B Exon 21, Irish Setter Variant)	Clear
Progressive Retinal Atrophy, rcd3 (PDE6A)	Clear
Proportionate Dwarfism (GH1 Exon 5, Chihuahua Variant)	Clear
Protein Losing Nephropathy, PLN (NPHS1)	Clear
Pyruvate Dehydrogenase Deficiency (PDP1, Spaniel Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 5, Basenji Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 7, Beagle Variant)	Clear

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OTHER RESULTS

Pyruvate Kinase Deficiency (PKLR Exon 10, Terrier Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 7, Labrador Retriever Variant)	Clear
Pyruvate Kinase Deficiency (PKLR Exon 7, Pug Variant)	Clear
Raine Syndrome (FAM20C)	Clear
Recurrent Inflammatory Pulmonary Disease, RIPD (AKNA, Rough Collie Variant)	Clear
Renal Cystadenocarcinoma and Nodular Dermatofibrosis (FLCN Exon 7)	Clear
Sensory Neuropathy (FAM134B, Border Collie Variant)	Clear
Severe Combined Immunodeficiency, SCID (PRKDC, Terrier Variant)	Clear
Severe Combined Immunodeficiency, SCID (RAG1, Wetterhoun Variant)	Clear
Shaking Puppy Syndrome (PLP1, English Springer Spaniel Variant)	Clear
Shar-Pei Autoinflammatory Disease, SPAID, Shar-Pei Fever (MTBP)	Clear
Skeletal Dysplasia 2, SD2 (COL11A2, Labrador Retriever Variant)	Clear
Skin Fragility Syndrome (PKP1, Chesapeake Bay Retriever Variant)	Clear
Spinocerebellar Ataxia with Myokymia and/or Seizures (KCNJ10)	Clear
Spongy Degeneration with Cerebellar Ataxia 1 (KCNJ10)	Clear
Spongy Degeneration with Cerebellar Ataxia 2 (ATP1B2)	Clear
Stargardt Disease (ABCA4 Exon 28, Labrador Retriever Variant)	Clear
Succinic Semialdehyde Dehydrogenase Deficiency (ALDH5A1 Exon 7, Saluki Variant)	Clear

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OTHER RESULTS

Thrombopathia (RASGRP1 Exon 5, American Eskimo Dog Variant)	Clear
Thrombopathia (RASGRP1 Exon 5, Basset Hound Variant)	Clear
Thrombopathia (RASGRP1 Exon 8, Landseer Variant)	Clear
Trapped Neutrophil Syndrome, TNS (VPS13B)	Clear
Ullrich-like Congenital Muscular Dystrophy (COL6A3 Exon 10, Labrador Retriever Variant)	Clear
Ullrich-like Congenital Muscular Dystrophy (COL6A1 Exon 3, Landseer Variant)	Clear
Unilateral Deafness and Vestibular Syndrome (PTPRQ Exon 39, Doberman Pinscher)	Clear
Urate Kidney & Bladder Stones (SLC2A9)	Clear
Von Willebrand Disease Type II, Type II vWD (VWF, Pointer Variant)	Clear
Von Willebrand Disease Type III, Type III vWD (VWF Exon 4, Terrier Variant)	Clear
Von Willebrand Disease Type III, Type III vWD (VWF Intron 16, Nederlandse Kooikerhondje Variant)	Clear
Von Willebrand Disease Type III, Type III vWD (VWF Exon 7, Shetland Sheepdog Variant)	Clear
X-Linked Hereditary Nephropathy, XLHN (COL4A5 Exon 35, Samoyed Variant 2)	Clear
X-Linked Myotubular Myopathy (MTM1, Labrador Retriever Variant)	Clear
X-Linked Progressive Retinal Atrophy 1, XL-PRA1 (RPGR)	Clear
X-linked Severe Combined Immunodeficiency, X-SCID (IL2RG Exon 1, Basset Hound Variant)	Clear
X-linked Severe Combined Immunodeficiency, X-SCID (IL2RG, Corgi Variant)	Clear
β-Mannosidosis (MANBA Exon 16, Mixed-Breed Variant)	Clear

HEALTH REPORT

Notable result

ALT Activity

Jerry inherited one copy of the variant we tested for Alanine Aminotransferase Activity

Why is this important to your vet?
Jerry has one copy of a variant associated with reduced ALT activity as measured on veterinary blood chemistry panels. Please inform your veterinarian that Jerry has this genotype, as ALT is often used as an indicator of liver health and Jerry is likely to have a lower than average resting ALT activity. As such, an increase in Jerry's ALT activity could be evidence of liver damage, even if it is within normal limits by standard ALT reference ranges.

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

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

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

HEALTH REPORT

Notable result

Methemoglobinemia

Jerry inherited one copy of the variant we tested for Methemoglobinemia

What does this result mean?
This variant should not impact Jerry's health. This variant is inherited in an autosomal recessive manner, meaning that a dog needs two copies of the variant to show signs of this condition. Jerry is unlikely to develop this condition due to this variant because he only has one copy of the variant.

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

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

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

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

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

Actions to take if your dog is affected

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

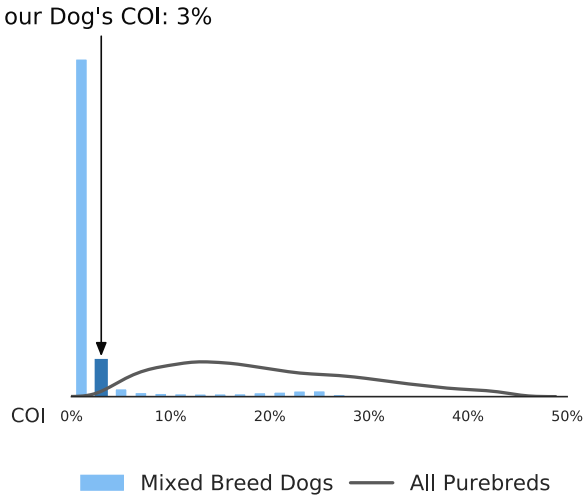
Genetic Diversity and Inbreeding

Coefficient of Inbreeding (COI)

Genetic Result: 3%

Our genetic COI measures the proportion of your dog's genome (his genes) where the genes on the mother's side are identical by descent to those on the father's side. The higher your dog's coefficient of inbreeding (the percentage), the more inbred your dog is.

Your Dog's COI



This graph represents where your dog's inbreeding levels fall on a scale compared to both dogs with a similar breed makeup to him (the blue bars) and all purebred dogs (the grey line).

Genetic Diversity and Inbreeding

More on the Science

Embark scientists, along with our research partners at Cornell University, have shown the impact of inbreeding on longevity and fertility and developed a state-of-the-art, peer-reviewed method for accurately measuring COI and predicting average COI in litters.

Citations

Sams & Boyko 2019 "Fine-Scale Resolution of Runs of Homozygosity Reveal Patterns of Inbreeding and Substantial Overlap with Recessive Disease Genotypes in Domestic Dogs" (https://www.ncbi.nlm.nih.gov/pubmed/30429214)

Chu et al 2019 "Inbreeding depression causes reduced fecundity in Golden Retrievers" (https://link.springer.com/article/10.1007/s00335-019-09805-4)

Yordy et al 2019 "Body size, inbreeding, and lifespan in domestic dogs" (https://www.semanticscholar.org/paper/Body-size%2C-inbreeding%2C-and-lifespan-in-domestic-Yordy-Kraus/61d0fa7a71afb26f547f0fb7ff71e23a14d19d2c)

About Embark

Embark Veterinary is a canine genetics company offering research-grade genetic tests to pet owners and breeders. Every Embark test examines thousands of genetic markers, and provides results for over NaN genetic health conditions, breed identification, clinical tools, and more.

Embark is a research partner of the Cornell University College of Veterinary Medicine and collaborates with scientists and registries to accelerate genetic research in canine health. We make it easy for customers and vets to understand, share and make use of their dog's unique genetic profile to improve canine health and happiness.

Learn more at embarkvet.com

Veterinarians and hospitals can send inquiries to veterinarians@embarkvet.com.