

CLOVER

Veterinary Report by Embark

embarkvet.com

Test Date: December 11th, 2025

Customer-supplied information

Owner Name: Kimberly Clinton

Dog Name: Clover

Sex: Female (intact)

Date of birth: n/a

Breed type: N/A

Breed: N/A

Breed registration: N/A

Microchip: N/A

Genetic summary

Genetic breed identification:

Bernese Mountain Dog

Predicted adult weight: **111 lbs**

Calculated from 17 size genes.

Breed ancestry:



Bernese Mountain Dog: 100.0%

Health Report

How to interpret Clover's genetic health results:

If Clover 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 Clover 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 274 genetic health risks we analyzed, we found 1 result that you should learn about.

Notable results (1)

Copper Toxicosis (Attenuating)

Clear results

Breed-relevant (2)

Other (270)

Health Report

BREED-RELEVANT RESULTS

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

	Degenerative Myelopathy, DM (SOD1A)	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 Clover. Review any increased risk or notable results to understand her potential risk and recommendations.

 Copper Toxicosis (Attenuating) (ATP7A, Labrador Retriever)	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
 ALT Activity (GPT)	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 Cornification Disorder (NSDHL, Chihuahua Variant)	Clear
✓ Congenital Dyserythropoietic Anemia and Polymyopathy (EHPB1L1, Labrador Retriever Variant)	Clear
✓ Congenital Hypothyroidism (TPO, Rat, Toy, Hairless Terrier Variant)	Clear
✓ Congenital Hypothyroidism (TPO, Tenterfield Terrier Variant)	Clear
✓ Congenital Hypothyroidism with Goiter (TPO Intron 13, French Bulldog Variant)	Clear

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OTHER RESULTS

✓ Congenital Hypothyroidism with Goiter (SLC5A5, Shih Tzu Variant)	Clear
✓ Congenital Macrothrombocytopenia (TUBB1 Exon 1, Cairn and Norfolk Terrier Variant)	Clear
✓ Congenital Muscular Dystrophy (LAMA2, Italian Greyhound)	Clear
✓ Congenital Myasthenic Syndrome, CMS (COLQ, Labrador Retriever Variant)	Clear
✓ 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
✓ Copper Toxicosis (Accumulating) (ATP7B)	Clear
✓ Copper Toxicosis (Attenuating) (RETN, Labrador Retriever)	Clear
✓ Craniomandibular Osteopathy, CMO (SLC37A2)	Clear
✓ Craniomandibular Osteopathy, CMO (SLC37A2 Intron 16, Basset Hound Variant)	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
✓ Darier Disease (ATP2A2, Irish Terrier Variant)	Clear
✓ Day Blindness (CNGB3 Deletion, Alaskan Malamute Variant)	Clear

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OTHER RESULTS

 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
 Dental-Skeletal-Retinal Anomaly (MIA3, Cane Corso Variant)	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
 Dilated Cardiomyopathy, DCM2 (TTN, Doberman Pinscher Variant 2)	Clear
 Disproportionate Dwarfism (PRKG2, Dogo Argentino Variant)	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 Adult Deafness, EOAD (EPS8L2 Deletion, Rhodesian Ridgeback Variant)	Clear
 Early Onset Cerebellar Ataxia (SEL1L, Finnish Hound Variant)	Clear
 Ehlers Danlos (ADAMTS2, Doberman Pinscher Variant)	Clear

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OTHER RESULTS

	Ehlers-Danlos Syndrome (EDS) (COL5A1, Labrador Retriever 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
	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 (G6PC1, German Pinscher 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

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	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
	GM2 Gangliosidosis (HEXB, Poodle 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
	Hereditary Ataxia (PNPLA8, Australian Shepherd Variant)	Clear
	Hereditary Ataxia, Cerebellar Degeneration (RAB24, Old English Sheepdog and Gordon Setter Variant)	Clear
	Hereditary Cataracts (HSF4 Exon 9, Australian Shepherd Variant)	Clear
	Hereditary Cataracts (FYCO1, Wirehaired Pointing Griffon Variant)	Clear

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 Hereditary Cerebellar Ataxia (SELENOP, Belgian 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, Acatlasemia (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 (ASPRV1 Exon 2, German Shepherd Variant)	Clear
 Ichthyosis (SLC27A4, Great Dane Variant)	Clear
 Ichthyosis, Epidermolytic Hyperkeratosis (KRT10, Terrier Variant)	Clear
 Ichthyosis, ICH1 (PNPLA1, Golden Retriever Variant)	Clear
 Ichthyosis, ICH2 (ABHD5, 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

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✓ Intervertebral Disc Disease (Type I) (FGF4 retrogene - CFA12)	Clear
✓ Intestinal Lipid Malabsorption (ACSL5, Australian Kelpie)	Clear
✓ Junctional Epidermolysis Bullosa (LAMA3 Exon 66, Australian Cattle Dog Variant)	Clear
✓ 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
✓ Laryngeal Paralysis and Polyneuropathy (CNTNAP1, Leonberger, Saint Bernard, and Labrador Retriever 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
✓ Leukodystrophy (TSEN54 Exon 5, Standard Schnauzer Variant)	Clear
✓ Ligneous Membranitis, LM (PLG)	Clear

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✓ 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
✓ Malignant Hyperthermia (RYR1)	Clear
✓ May-Hegglin Anomaly (MYH9)	Clear
✓ MDR1 Drug Sensitivity (ABCB1)	Clear
✓ Medium-Chain Acyl-CoA Dehydrogenase Deficiency, MCADD (ACADM, Cavalier King Charles Spaniel Variant)	Clear
✓ Methemoglobinemia (CYB5R3, Pit Bull Terrier Variant)	Clear
✓ Methemoglobinemia (CYB5R3)	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

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	Muscular Dystrophy (DMD, Cavalier King Charles Spaniel Variant 1)	Clear
	Muscular Dystrophy (DMD, Golden Retriever Variant)	Clear
	Muscular Dystrophy-Dystroglycanopathy (LARGE1, Labrador 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 19, Labrador Retriever Variant)	Clear
	Myotonia Congenita (CLCN1 Exon 7, Miniature Schnauzer Variant)	Clear
	Narcolepsy (HCRT2 Exon 1, Dachshund Variant)	Clear
	Narcolepsy (HCRT2 Intron 4, Doberman Pinscher Variant)	Clear
	Narcolepsy (HCRT2 Intron 6, Labrador Retriever Variant)	Clear
	Nemaline Myopathy (NEB, American Bulldog Variant)	Clear
	Neonatal Cerebellar Cortical Degeneration (SPTBN2, Beagle Variant)	Clear
	Neonatal Encephalopathy with Seizures, NEWS (ATF2)	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

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✓	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 Exon 6, Bullmastiff Variant)	Clear
✓	Oculocutaneous Albinism, OCA (SLC45A2, Small Breed Variant)	Clear
✓	Oculoskeletal Dysplasia 2 (COL9A2, Samoyed Variant)	Clear
✓	Osteochondrodysplasia (SLC13A1, Poodle 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

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	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 (STK36, Australian Shepherd 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
	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

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	Progressive Retinal Atrophy (IFT122 Exon 26, Lapponian Herder Variant)	Clear
	Progressive Retinal Atrophy 5, PRA5 (NECAP1 Exon 6, Giant Schnauzer 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, prcd (PRCD Exon 1)	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
	Pyruvate Kinase Deficiency (PKLR Exon 10, Terrier Variant)	Clear
	Pyruvate Kinase Deficiency (PKLR Exon 7, Labrador Retriever Variant)	Clear

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 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
 Retina Dysplasia and/or Optic Nerve Hypoplasia (SIX6 Exon 1, Golden Retriever Variant)	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 (SCN8A, Alpine Dachsbracke 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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	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
	Xanthine Urolithiasis (XDH, Mixed Breed Variant)	Clear

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 β-Mannosidosis (MANBA Exon 16, Mixed-Breed Variant) Clear

Mast Cell Tumor No result

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Notable result

Copper Toxicosis (Attenuating)

Clover inherited both copies of the variant we tested for Copper Toxicosis (Attenuating)

Why is this important to your vet?

Clover has a genotype at the ATP7A gene that modifies and may help mitigate some of the symptoms from dogs with variants at ATP7B (<https://my.embarkvet.com/members/results/health/condition/140102?i=102>). This variant is not associated with an increased risk of any disease. As this variant resides on the X- chromosome, male dogs with one copy of the variant are better protected from copper accumulation due to the ATP7B variant than female dogs with one copy of the variant.

What is Copper Toxicosis (Attenuating)?

This genetic variant may help lessen the effects of copper buildup in dogs that also carry the copper toxicosis risk variant ATP7B (<https://my.embarkvet.com/members/results/health/condition/140102?i=102>). On its own, it is not known to cause health problems.

When signs & symptoms develop in affected dogs

A variant in this gene may delay or have no effect on the onset of clinical signs of copper toxicosis in dogs with the ATP7B (<https://my.embarkvet.com/members/results/health/condition/140102?i=102>) variant. If your dog has the ATP7B variant, please read more about the age of onset on the ATP7B page.

How vets diagnose this condition

No diagnostics are required for this variant. If your dog has the ATP7B (<https://my.embarkvet.com/members/results/health/condition/140102?i=102>) variant, please read what diagnostics may be considered on the ATP7B page.

How this condition is treated

No treatment is required for this variant. If your dog has the ATP7B (<https://my.embarkvet.com/members/results/health/condition/140102?i=102>) variant, please read the available treatment on the ATP7B page.

Actions to take if your dog is affected

- No specific action is needed for dogs with this variant alone.
- If your dog also has the ATP7B variant, please review what actions you can take on the ATP7B page (<https://my.embarkvet.com/members/results/health/condition/140102?i=102>).
- Routine veterinary care and a balanced diet are appropriate for most dogs with this result.

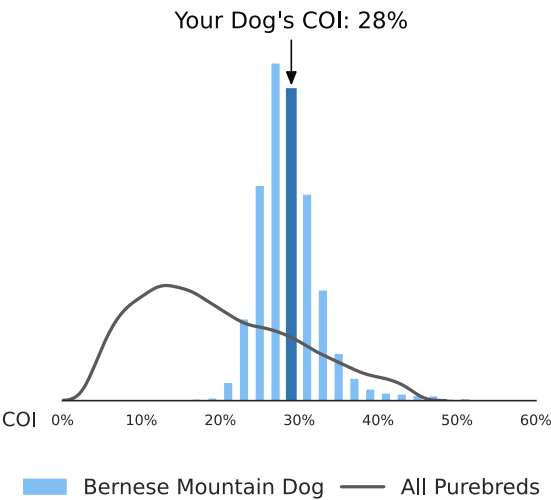
Genetic Diversity and Inbreeding

Coefficient of Inbreeding (COI)

Genetic Result: 28%

Our genetic COI measures the proportion of your dog’s genome (her 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 her (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 280 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.