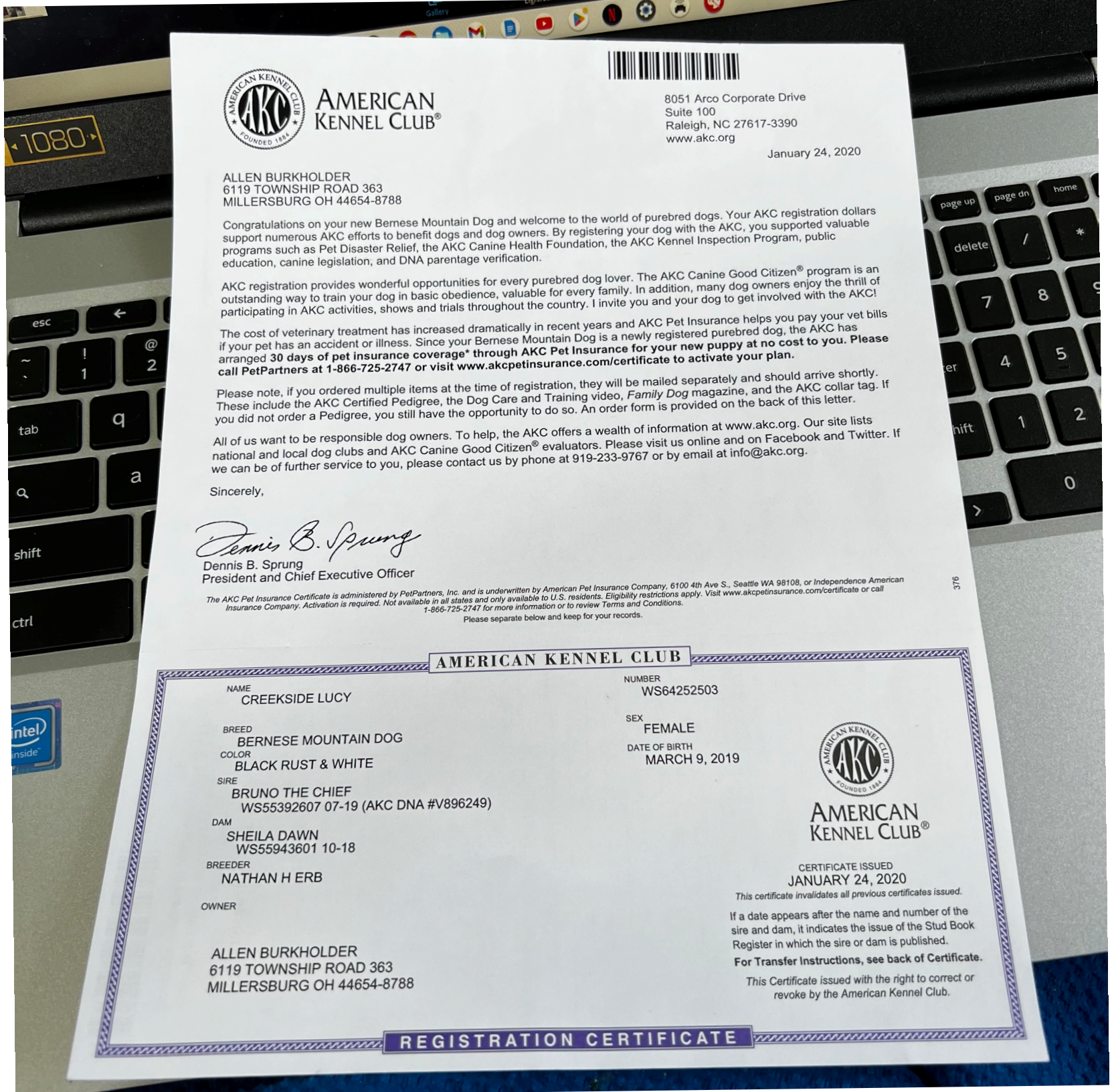


AMERICAN KENNEL CLUB®

8051 Arco Corporate Drive
Suite 100
Raleigh, NC 27617-3390
www.akc.org

January 24, 2020

ALLEN BURKHOLDER
6119 TOWNSHIP ROAD 363
MILLERSBURG OH 44654-8788

Congratulations on your new Bernese Mountain Dog and welcome to the world of purebred dogs. Your AKC registration dollars support numerous AKC efforts to benefit dogs and dog owners. By registering your dog with the AKC, you supported valuable programs such as Pet Disaster Relief, the AKC Canine Health Foundation, the AKC Kennel Inspection Program, public education, canine legislation, and DNA parentage verification.

AKC registration provides wonderful opportunities for every purebred dog lover. The AKC Canine Good Citizen® program is an outstanding way to train your dog in basic obedience, valuable for every family. In addition, many dog owners enjoy the thrill of participating in AKC activities, shows and trials throughout the country. I invite you and your dog to get involved with the AKC!

The cost of veterinary treatment has increased dramatically in recent years and AKC Pet Insurance helps you pay your vet bills if your pet has an accident or illness. Since your Bernese Mountain Dog is a newly registered purebred dog, the AKC has arranged **30 days of pet insurance coverage* through AKC Pet Insurance for your new puppy at no cost to you. Please call PetPartners at 1-866-725-2747 or visit www.akcpetinsurance.com/certificate to activate your plan.**

Please note, if you ordered multiple items at the time of registration, they will be mailed separately and should arrive shortly. These include the AKC Certified Pedigree, the Dog Care and Training video, *Family Dog* magazine, and the AKC collar tag. If you did not order a Pedigree, you still have the opportunity to do so. An order form is provided on the back of this letter.

All of us want to be responsible dog owners. To help, the AKC offers a wealth of information at www.akc.org. Our site lists national and local dog clubs and AKC Canine Good Citizen® evaluators. Please visit us online and on Facebook and Twitter. If we can be of further service to you, please contact us by phone at 919-233-9767 or by email at info@akc.org.

Sincerely,

Dennis B. Sprung

Dennis B. Sprung
President and Chief Executive Officer

The AKC Pet Insurance Certificate is administered by PetPartners, Inc. and is underwritten by American Pet Insurance Company, 6100 4th Ave S., Seattle WA 98108, or Independence American Insurance Company. Activation is required. Not available in all states and only available to U.S. residents. Eligibility restrictions apply. Visit www.akcpetinsurance.com/certificate or call 1-866-725-2747 for more information or to review Terms and Conditions.

376

Please separate below and keep for your records.

AMERICAN KENNEL CLUB

NAME
CREEKSIDE LUCY

NUMBER
WS64252503

BREED
BERNESE MOUNTAIN DOG

SEX
FEMALE

COLOR
BLACK RUST & WHITE

DATE OF BIRTH
MARCH 9, 2019

SIRE
BRUNO THE CHIEF
WS55392607 07-19 (AKC DNA #V896249)

DAM
SHEILA DAWN
WS55943601 10-18

BREEDER
NATHAN H ERB

OWNER

ALLEN BURKHOLDER
6119 TOWNSHIP ROAD 363
MILLERSBURG OH 44654-8788

AMERICAN KENNEL CLUB®

CERTIFICATE ISSUED
JANUARY 24, 2020

This certificate invalidates all previous certificates issued.

If a date appears after the name and number of the sire and dam, it indicates the issue of the Stud Book Register in which the sire or dam is published.

For Transfer Instructions, see back of Certificate.

This Certificate issued with the right to correct or revoke by the American Kennel Club.

REGISTRATION CERTIFICATE

ORTHOPEDIC FOUNDATION FOR ANIMALS, INC.

CREEKSIDE LUCY
registered name

BERNESE MOUNTAIN DOG
breed

900111881614603
tattoo/microchip/DNA profile

2442361
application number

3/21/2023
date of report

WS64252503
registration no.

F
sex

3/9/2019
date of birth

48
age at evaluation in months

A Not-For-Profit Organization

BMD-BCA1398/48F/P-VPI
O.F.A. NUMBER

This number issued with the right to correct or revoke by the Orthopedic Foundation for Animals.

RESULTS:
Normal cardiovascular examination via auscultation - No evidence of congenital or acquired heart disease was noted. Since acquired heart disease may develop later, these evaluation results remain valid for one year, and annual examinations are recommended to continue to monitor cardiac health.

NORMAL/CLEAR - PRACTITIONER

owner
ALLEN BURKHOLDER
6119 TOWNSHIP RD 363
MILLERSBURG, OH 44654

OFA Certificate
Verify with QR Scan

G.G.KELLER. D.V.M., M.S., DACVR
CHIEF OF VETERINARY SERVICES

www.ofa.org

ORTHOPEDIC FOUNDATION FOR ANIMALS, INC.

CREEKSIDE LUCY
registered name

BERNESE MOUNTAIN DOG
breed

900111881614603
tattoo/microchip/DNA profile

2442361
application number

4/4/2023
date of report

WS64252503
registration no.

F
sex

3/9/2019
date of birth

48
age at evaluation in months

BMD-26345E48F-C-VPI
O.F.A. NUMBER

This number issued with the right to correct or revoke by the Orthopedic Foundation for Animals.

A Not-For-Profit Organization

RESULTS:

Based upon the radiograph submitted, the consensus was that no evidence of hip dysplasia was recognized. The hip joint conformation was evaluated as:

EXCELLENT

owner

ALLEN BURKHOLDER
6119 TOWNSHIP RD 363
MILLERSBURG, OH 44654

OFA Certificate

Verify with QR Scan

G.G.KELLER. D.V.M., M.S., DACVR
CHIEF OF VETERINARY SERVICES

www.ofa.org

AMERICAN KENNEL CLUB · FOUNDED 1884

Certified Pedigree

CREEKSIDE LUCY
WS64252503
BERNESE MOUNTAIN DOG FEMALE BLK RST & WH
Microchip: 900111881614603
Date Whelped: 03/09/2019
Breeder: NATHAN H ERB

Sire **BRUNO THE CHIEF**
WS55392607 (07-19) BLK RST & WH AKC DNA #V896249

- **BLUEBIRD HAVEN ROCKY**
  WS45786701 (09-16) BLK RST & WH AKC DNA #V823774
  - **KING MICAH**
    WS20425905 (05-09) BLK RST & WH AKC DNA #V586383
  - **SHADYS SHANIA**
    WS39530204 (03-14) BLK TN & WH
- **CREEKSIDE DEBBIE**
  WS51334904 (03-17) BLK RST & WH AKC DNA #V862462
  - **SKYLINE BRUNO MEL SK**
    WS44547407 (12-15) BLK RST & WH AKC DNA #V800162
  - **SKYLINE DARLING ROSE**
    WS46954407 (12-15) BLK RST & WH

Dam **SHEILA DAWN**
WS55943601 (10-18) BLK RST & WH

- **HIDDEN ACRES BINGO**
  WS51320705 (04-17) BLK RST & WH AKC DNA #V829431
  - **RABERS BOBBY**
    WS47514601 (12-15) OFA45G OFEL45 BLK RST & WH AKC DNA #V806503
  - **PENNY V**
    WS45610506 (12-15) BLK RST & WH
- **TRICKLING BROOK SHEILA**
  WS51796004 (04-17) BLK RST & WH
  - **SUNRISE POUCH**
    WS41588906 (10-13) OFA33G OFEL33 BLK RST & WH AKC DNA #V719376
  - **SUNRISE KELLEY**
    WS39505701 (07-13) BLK RST & WH

AMERICAN KENNEL CLUB®

Gina DiNardo
Executive Secretary

The Seal of The American Kennel Club affixed hereto certifies that this pedigree was compiled from official Stud Book records on January 24, 2020.

LUCY

Veterinary Report by Embark

embarkvet.com

Test Date: November 3rd, 2021

Customer-supplied information

Owner Name: Allen Burkholder
Dog Name: Lucy
Sex: Female (intact)
Date of birth: 03/09/19

Breed type: purebred
Breed: bernese Mountain Dog
Breed registration: American Kennel Club (AKC) Ws64252503
Microchip: N/A

Genetic summary

Genetic breed identification:
Bernese Mountain Dog

Breed mix:

Bernese Mountain Dog: 100.0%

Predicted adult weight: **75 lbs**
Calculated from 17 size genes.

Genetic age: **32 human years**
Human equivalent age based on size, date of birth provided, and other factors

Clinical Tools

These clinical genetic tools can inform clinical decisions and diagnoses. These tools do not predict increased risk for disease.

Alanine Aminotransferase Activity (GPT)

Lucy's baseline ALT level is likely to be Normal

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

How to interpret Lucy's genetic health results:
If Lucy 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 Lucy 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.

Lucy inherited one variant that you should learn more about.

Degenerative Myelopathy, DM	
Breed-Relevant Genetic Conditions	**1 variant not detected**
Additional Genetic Conditions	**207 variants not detected**

Health Report

Degenerative Myelopathy, DM (SOD1A)

Lucy inherited one copy of the variant we tested

What does this result mean?
This result does not impact your dog's health. It could have consequences for siblings or other family members, and you should let them know if you are in contact with them. This result is also important if you decide to breed this dog - to produce the healthiest puppies we recommend genetic testing any potential mates for this condition.

What is Degenerative Myelopathy, DM?
The dog equivalent of Amyotrophic Lateral Sclerosis, or Lou Gehrig's disease, DM is a progressive degenerative disorder of the spinal cord. Because the nerves that control the hind limbs are the first to degenerate, the most common clinical signs are back muscle wasting and gait abnormalities.

When signs & symptoms develop in affected dogs
Affected dogs do not usually show signs of DM until they are at least 8 years old.

How vets diagnose this condition
Definitive diagnosis requires microscopic analysis of the spinal cord after death. However, veterinarians use clues such as genetic testing, breed, age, and other diagnostics to determine if DM is the most likely cause of your dog's clinical signs.

How this condition is treated
As dogs are seniors at the time of onset, the treatment for DM is aimed towards increasing their comfort through a combination of lifestyle changes, medication, and physical therapy.

Actions to take if your dog is affected

- Giving your dog the best quality of life for as long as possible is all you can do after receiving this diagnosis.

Breed-Relevant Conditions Tested

Lucy did not have the variants that we tested for, that are relevant to her breed:

- **Von Willebrand Disease Type I, Type I vWD (VWF)**

Additional Conditions Tested

Lucy did not have the variants that we tested for, in the following conditions that the potential effect on dogs with Lucy's breed may not yet be known.

- MDR1 Drug Sensitivity (ABCB1)
- P2Y12 Receptor Platelet Disorder (P2Y12)
- Factor IX Deficiency, Hemophilia B (F9 Exon 7, Terrier Variant)
- Factor IX Deficiency, Hemophilia B (F9 Exon 7, Rhodesian Ridgeback Variant)
- Factor VII Deficiency (F7 Exon 5)
- Factor VIII Deficiency, Hemophilia A (F8 Exon 10, Boxer Variant)
- Factor VIII Deficiency, Hemophilia A (F8 Exon 11, German Shepherd Variant 1)
- Factor VIII Deficiency, Hemophilia A (F8 Exon 1, German Shepherd Variant 2)
- Thrombopathia (RASGRP1 Exon 5, Basset Hound Variant)
- Thrombopathia (RASGRP1 Exon 8, Landseer Variant)
- Thrombopathia (RASGRP1 Exon 5, American Eskimo Dog Variant)
- Von Willebrand Disease Type III, Type III vWD (VWF Exon 4, Terrier Variant)
- Von Willebrand Disease Type III, Type III vWD (VWF Exon 7, Shetland Sheepdog Variant)
- Von Willebrand Disease Type II, Type II vWD (VWF, Pointer Variant)
- Canine Leukocyte Adhesion Deficiency Type I, CLAD I (ITGB2, Setter Variant)
- Canine Leukocyte Adhesion Deficiency Type III, CLAD III (FERMT3, German Shepherd Variant)
- Congenital Macrothrombocytopenia (TUBB1 Exon 1, Cairn and Norfolk Terrier Variant)
- Canine Elliptocytosis (SPTB Exon 30)
- Glanzmann's Thrombasthenia Type I (ITGA2B Exon 13, Great Pyrenees Variant)
- Glanzmann's Thrombasthenia Type I (ITGA2B Exon 12, Otterhound Variant)

Additional Conditions Tested

- May-Hegglin Anomaly (MYH9)
- Prekallikrein Deficiency (KLKB1 Exon 8)
- Pyruvate Kinase Deficiency (PKLR Exon 5, Basenji Variant)
- Pyruvate Kinase Deficiency (PKLR Exon 7, Labrador Retriever Variant)
- Pyruvate Kinase Deficiency (PKLR Exon 7, Pug Variant)
- Pyruvate Kinase Deficiency (PKLR Exon 7, Beagle Variant)
- Pyruvate Kinase Deficiency (PKLR Exon 10, Terrier Variant)
- Trapped Neutrophil Syndrome, TNS (VPS13B)
- Ligneous Membranitis, LM (PLG)
- Platelet Factor X Receptor Deficiency, Scott Syndrome (TMEM16F)
- Methemoglobinemia (CYB5R3)
- Congenital Hypothyroidism (TPO, Tenterfield Terrier Variant)
- Congenital Hypothyroidism (TPO, Rat, Toy, Hairless Terrier Variant)
- Complement 3 Deficiency, C3 Deficiency (C3)
- Severe Combined Immunodeficiency, SCID (PRKDC, Terrier Variant)
- Severe Combined Immunodeficiency, SCID (RAG1, Wetterhoun Variant)
- X-linked Severe Combined Immunodeficiency, X-SCID (IL2RG Exon 1, Basset Hound Variant)
- X-linked Severe Combined Immunodeficiency, X-SCID (IL2RG, Corgi Variant)
- Progressive Retinal Atrophy, rcd1 (PDE6B Exon 21, Irish Setter Variant)
- Progressive Retinal Atrophy, rcd3 (PDE6A)

Additional Conditions Tested

- Progressive Retinal Atrophy, CNGA (CNGA1 Exon 9)
- Progressive Retinal Atrophy, prcd (PRCD Exon 1)
- Progressive Retinal Atrophy, PRA1 (CNGB1)
- Progressive Retinal Atrophy (SAG)
- Golden Retriever Progressive Retinal Atrophy 1, GR-PRA1 (SLC4A3)
- Golden Retriever Progressive Retinal Atrophy 2, GR-PRA2 (TTC8)
- Progressive Retinal Atrophy, crd1 (PDE6B, American Staffordshire Terrier Variant)
- Progressive Retinal Atrophy, crd4/cord1 (RPGRIP1)
- X-Linked Progressive Retinal Atrophy 1, XL-PRA1 (RPGR)
- Progressive Retinal Atrophy, PRA3 (FAM161A)
- Collie Eye Anomaly, Choroidal Hypoplasia, CEA (NHEJ1)
- Day Blindness, Cone Degeneration, Achromatopsia (CNGB3 Exon 6, German Shorthaired Pointer Variant)
- Achromatopsia (CNGA3 Exon 7, German Shepherd Variant)
- Achromatopsia (CNGA3 Exon 7, Labrador Retriever Variant)
- Autosomal Dominant Progressive Retinal Atrophy (RHO)
- Canine Multifocal Retinopathy, cmr1 (BEST1 Exon 2)
- Canine Multifocal Retinopathy, cmr2 (BEST1 Exon 5, Coton de Tulear Variant)
- Canine Multifocal Retinopathy, cmr3 (BEST1 Exon 10 Deletion, Finnish and Swedish Lapphund, Lapponian Herder Variant)
- Primary Open Angle Glaucoma (ADAMTS10 Exon 9, Norwegian Elkhound Variant)
- Primary Open Angle Glaucoma (ADAMTS10 Exon 17, Beagle Variant)

Additional Conditions Tested

- Primary Open Angle Glaucoma (ADAMTS17 Exon 11, Basset Fauve de Bretagne Variant)
- Primary Open Angle Glaucoma and Primary Lens Luxation (ADAMTS17 Exon 2, Chinese Shar-Pei Variant)
- Goniodysgenesis and Glaucoma, Pectinate Ligament Dysplasia, PLD (OLFM3)
- Hereditary Cataracts, Early-Onset Cataracts, Juvenile Cataracts (HSF4 Exon 9, Australian Shepherd Variant)
- Primary Lens Luxation (ADAMTS17)
- Congenital Stationary Night Blindness (RPE65, Briard Variant)
- Congenital Stationary Night Blindness (LRIT3, Beagle Variant)
- Macular Corneal Dystrophy, MCD (CHST6)
- 2,8-Dihydroxyadenine Urolithiasis, 2,8-DHA Urolithiasis (APRT)
- Cystinuria Type I-A (SLC3A1, Newfoundland Variant)
- Cystinuria Type II-A (SLC3A1, Australian Cattle Dog Variant)
- Cystinuria Type II-B (SLC7A9, Miniature Pinscher Variant)
- Hyperuricosuria and Hyperuricemia or Urolithiasis, HUU (SLC2A9)
- Polycystic Kidney Disease, PKD (PKD1)
- Primary Hyperoxaluria (AGXT)
- Protein Losing Nephropathy, PLN (NPHS1)
- X-Linked Hereditary Nephropathy, XLHN (COL4A5 Exon 35, Samoyed Variant 2)
- Autosomal Recessive Hereditary Nephropathy, Familial Nephropathy, ARHN (COL4A4 Exon 3, Cocker Spaniel Variant)
- Primary Ciliary Dyskinesia, PCD (CCDC39 Exon 3, Old English Sheepdog Variant)
- Primary Ciliary Dyskinesia, PCD (NME5, Alaskan Malamute Variant)

Additional Conditions Tested

- Congenital Keratoconjunctivitis Sicca and Ichthyosiform Dermatosis, Dry Eye Curly Coat Syndrome, CKCSID (FAM83H Exon 5)
- X-linked Ectodermal Dysplasia, Anhidrotic Ectodermal Dysplasia, XHED (EDA Intron 8)
- Renal Cystadenocarcinoma and Nodular Dermatofibrosis, RCND (FLCN Exon 7)
- Canine Fucosidosis (FUCA1)
- Glycogen Storage Disease Type II, Pompe's Disease, GSD II (GAA, Finnish and Swedish Lapphund, Lapponian Herder Variant)
- Glycogen Storage Disease Type IA, Von Gierke Disease, GSD IA (G6PC, Maltese Variant)
- Glycogen Storage Disease Type IIIA, GSD IIIA (AGL, Curly Coated Retriever Variant)
- Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, Dachshund Variant)
- Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, New Zealand Huntaway Variant)
- Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 5, Terrier Brasileiro Variant)
- Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 3, German Shepherd Variant)
- Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM, Whippet and English Springer Spaniel Variant)
- Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM, Wachtelhund Variant)
- Lagotto Storage Disease (ATG4D)
- Neuronal Ceroid Lipofuscinosis 1, NCL 1 (PPT1 Exon 8, Dachshund Variant 1)
- Neuronal Ceroid Lipofuscinosis 2, NCL 2 (TPP1 Exon 4, Dachshund Variant 2)
- Neuronal Ceroid Lipofuscinosis, Cerebellar Ataxia, NCL4A (ARSG Exon 2, American Staffordshire Terrier Variant)
- Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 SNP, Border Collie Variant)
- Neuronal Ceroid Lipofuscinosis 6, NCL 6 (CLN6 Exon 7, Australian Shepherd Variant)
- Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 Exon 2, English Setter Variant)

Additional Conditions Tested

- Neuronal Ceroid Lipofuscinosis 7, NCL 7 (MFSD8, Chihuahua and Chinese Crested Variant)
- Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8, Australian Shepherd Variant)
- Neuronal Ceroid Lipofuscinosis 10, NCL 10 (CTSD Exon 5, American Bulldog Variant)
- Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 Deletion, Golden Retriever Variant)
- Adult-Onset Neuronal Ceroid Lipofuscinosis, NCL A, NCL 12 (ATP13A2, Tibetan Terrier Variant)
- Late-Onset Neuronal Ceroid Lipofuscinosis, NCL 12 (ATP13A2, Australian Cattle Dog Variant)
- GM1 Gangliosidosis (GLB1 Exon 15, Shiba Inu Variant)
- GM1 Gangliosidosis (GLB1 Exon 15, Alaskan Husky Variant)
- GM1 Gangliosidosis (GLB1 Exon 2, Portuguese Water Dog Variant)
- GM2 Gangliosidosis (HEXB, Poodle Variant)
- GM2 Gangliosidosis (HEXA, Japanese Chin Variant)
- Globoid Cell Leukodystrophy, Krabbe disease (GALC Exon 5, Terrier Variant)
- Autosomal Recessive Amelogenesis Imperfecta, Familial Enamel Hypoplasia (ENAM Deletion, Italian Greyhound Variant)
- Autosomal Recessive Amelogenesis Imperfecta, Familial Enamel Hypoplasia (ENAM SNP, Parson Russell Terrier Variant)
- Persistent Mullerian Duct Syndrome, PMDS (AMHR2)
- Deafness and Vestibular Syndrome of Dobermans, DVDob, DINGS (MYO7A)
- Shar-Pei Autoinflammatory Disease, SPAID, Shar-Pei Fever (MTBP)
- Neonatal Interstitial Lung Disease (LAMP3)
- Alaskan Husky Encephalopathy, Subacute Necrotizing Encephalomyelopathy (SLC19A3)
- Alexander Disease (GFAP)

Additional Conditions Tested

- Cerebellar Abiotrophy, Neonatal Cerebellar Cortical Degeneration, NCCD (SPTBN2, Beagle Variant)
- Cerebellar Ataxia, Progressive Early-Onset Cerebellar Ataxia (SEL1L, Finnish Hound Variant)
- Cerebellar Hypoplasia (VLDLR, Eurasier Variant)
- Spinocerebellar Ataxia, Late-Onset Ataxia, LoSCA (CAPN1)
- Spinocerebellar Ataxia with Myokymia and/or Seizures (KCNJ10)
- Hereditary Ataxia, Cerebellar Degeneration (RAB24, Old English Sheepdog and Gordon Setter Variant)
- Benign Familial Juvenile Epilepsy, Remitting Focal Epilepsy (LGI2)
- Fetal-Onset Neonatal Neuroaxonal Dystrophy (MFN2, Giant Schnauzer Variant)
- Hypomyelination and Tremors (FNIP2, Weimaraner Variant)
- Shaking Puppy Syndrome, X-linked Generalized Tremor Syndrome (PLP1, English Springer Spaniel Variant)
- Neuroaxonal Dystrophy, NAD (TECPR2, Spanish Water Dog Variant)
- Neuroaxonal Dystrophy, NAD (VPS11, Rottweiler Variant)
- L-2-Hydroxyglutaricaciduria, L2HGA (L2HGDH, Staffordshire Bull Terrier Variant)
- Neonatal Encephalopathy with Seizures, NEWS (ATF2)
- Alaskan Malamute Polyneuropathy, AMPN (NDRG1 SNP)
- Narcolepsy (HCRTR2 Intron 4, Doberman Pinscher Variant)
- Narcolepsy (HCRTR2 Intron 6, Labrador Retriever Variant)
- Narcolepsy (HCRTR2 Exon 1, Dachshund Variant)
- Progressive Neuronal Abiotrophy, Canine Multiple System Degeneration, CMSD (SERAC1 Exon 15, Kerry Blue Terrier Variant)
- Progressive Neuronal Abiotrophy, Canine Multiple System Degeneration, CMSD (SERAC1 Exon 4, Chinese Crested Variant)

Additional Conditions Tested

- Juvenile Laryngeal Paralysis and Polyneuropathy, Polyneuropathy with Ocular Abnormalities and Neuronal Vacuolation, POANV (RAB3GAP1, Rottweiler Variant)
- Hereditary Sensory Autonomic Neuropathy, Acral Mutilation Syndrome, AMS (GDNF-AS, Spaniel and Pointer Variant)
- Sensory Neuropathy (FAM134B, Border Collie Variant)
- Juvenile-Onset Polyneuropathy, Leonberger Polyneuropathy 1, LPN1 (LPN1, ARHGEF10)
- Juvenile Myoclonic Epilepsy (DIRAS1)
- Juvenile-Onset Polyneuropathy, Leonberger Polyneuropathy 2, LPN2 (GJA9)
- Spongy Degeneration with Cerebellar Ataxia 1, SDCA1, SeSAME/EAST Syndrome (KCNJ10)
- Spongy Degeneration with Cerebellar Ataxia 2, SDCA2 (ATP1B2)
- Dilated Cardiomyopathy, DCM1 (PDK4, Doberman Pinscher Variant 1)
- Dilated Cardiomyopathy, DCM2 (TTN, Doberman Pinscher Variant 2)
- Long QT Syndrome (KCNQ1)
- Cardiomyopathy and Juvenile Mortality (YARS2)
- Muscular Dystrophy (DMD, Cavalier King Charles Spaniel Variant 1)
- Muscular Dystrophy (DMD, Golden Retriever Variant)
- Limb Girdle Muscular Dystrophy (SGCD, Boston Terrier Variant)
- Ullrich-like Congenital Muscular Dystrophy (COL6A3 Exon 10, Labrador Retriever Variant)
- Centronuclear Myopathy, CNM (PTPLA)
- Exercise-Induced Collapse, EIC (DNM1)
- Inherited Myopathy of Great Danes (BIN1)
- Myostatin Deficiency, Bully Whippet Syndrome (MSTN)

Additional Conditions Tested

- Myotonia Congenita (CLCN1 Exon 7, Miniature Schnauzer Variant)
- Myotonia Congenita (CLCN1 Exon 23, Australian Cattle Dog Variant)
- Myotubular Myopathy 1, X-linked Myotubular Myopathy, XL-MTM (MTM1, Labrador Retriever Variant)
- Inflammatory Myopathy (SLC25A12)
- Hypocatalasia, Acatalasemia (CAT)
- Pyruvate Dehydrogenase Deficiency (PDP1, Spaniel Variant)
- Malignant Hyperthermia (RYR1)
- Imerslund-Grasbeck Syndrome, Selective Cobalamin Malabsorption (CUBN Exon 53, Border Collie Variant)
- Imerslund-Grasbeck Syndrome, Selective Cobalamin Malabsorption (CUBN Exon 8, Beagle Variant)
- Inherited Selected Cobalamin Malabsorption with Proteinuria (CUBN, Komondor Variant)
- Lundehund Syndrome (LEPREL1)
- Congenital Myasthenic Syndrome, CMS (CHAT, Old Danish Pointing Dog Variant)
- Congenital Myasthenic Syndrome, CMS (COLQ, Labrador Retriever Variant)
- Congenital Myasthenic Syndrome, CMS (CHRNE, Jack Russell Terrier Variant)
- Congenital Myasthenic Syndrome, CMS (COLQ, Golden Retriever Variant)
- Myasthenia Gravis-Like Syndrome (CHRNE, Heideterrier Variant)
- Episodic Falling Syndrome (BCAN)
- Paroxysmal Dyskinesia, PxD (PIGN)
- Demyelinating Polyneuropathy (SBF2/MTRM13)
- Dystrophic Epidermolysis Bullosa (COL7A1, Golden Retriever Variant)

Additional Conditions Tested

- Dystrophic Epidermolysis Bullosa (COL7A1, Central Asian Shepherd Dog Variant)
- Ectodermal Dysplasia, Skin Fragility Syndrome (PKP1, Chesapeake Bay Retriever Variant)
- Ichthyosis, Epidermolytic Hyperkeratosis (KRT10, Terrier Variant)
- Ichthyosis, ICH1 (PNPLA1, Golden Retriever Variant)
- Ichthyosis (SLC27A4, Great Dane Variant)
- Ichthyosis (NIPAL4, American Bulldog Variant)
- Focal Non-Epidermolytic Palmoplantar Keratoderma, Pachyonychia Congenita (KRT16, Dogue de Bordeaux Variant)
- Hereditary Footpad Hyperkeratosis (FAM83G, Terrier and Kromfohrlander Variant)
- Hereditary Footpad Hyperkeratosis (DSG1, Rottweiler Variant)
- Hereditary Nasal Parakeratosis, HNPK (SUV39H2)
- Musladin-Lueke Syndrome, MLS (ADAMTSL2)
- Oculocutaneous Albinism, OCA (SLC45A2, Pekingese Variant)
- Bald Thigh Syndrome (IGFBP5)
- Lethal Acrodermatitis, LAD (MKLN1)
- Ehlers Danlos (ADAMTS2, Doberman Pinscher Variant)
- Cleft Lip and/or Cleft Palate (ADAMTS20, Nova Scotia Duck Tolling Retriever Variant)
- Hereditary Vitamin D-Resistant Rickets (VDR)
- Oculoskeletal Dysplasia 2, Dwarfism-Retinal Dysplasia 2, drd2, OSD2 (COL9A2, Samoyed Variant)
- Osteogenesis Imperfecta, Brittle Bone Disease (COL1A2, Beagle Variant)
- Osteogenesis Imperfecta, Brittle Bone Disease (SERPINH1, Dachshund Variant)

Additional Conditions Tested

- Osteogenesis Imperfecta, Brittle Bone Disease (COL1A1, Golden Retriever Variant)
- Osteochondrodysplasia, Skeletal Dwarfism (SLC13A1, Poodle Variant)
- Skeletal Dysplasia 2, SD2 (COL11A2, Labrador Retriever Variant)
- Craniomandibular Osteopathy, CMO (SLC37A2)
- Raine Syndrome, Canine Dental Hypomineralization Syndrome (FAM20C)
- Chondrodystrophy and Intervertebral Disc Disease, CDDY/IVDD, Type I IVDD (FGF4 retrogene - CFA12)
- Chondrodystrophy (ITGA10, Norwegian Elkhound and Karelian Bear Dog Variant)

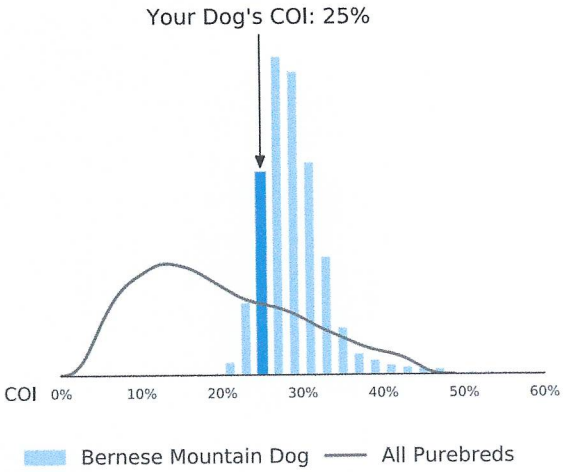
Genetic Diversity and Inbreeding

Coefficient of Inbreeding (COI)

Genetic Result: 25%

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 over 200,000 genetic markers, and provides results for over 220 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.