

# LEXI

## Veterinary Report by Embark

embarkvet.com

Test Date: September 5th, 2023

### Customer-supplied information

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Owner Name: Marlene Tinsley

Dog Name: Lexi

Sex: Female (intact)

Date of birth: 02/08/22

Breed type: N/A

Breed: Golden Retriever

Breed registration: American Kennel Club (AKC) SS31957801

Microchip: N/A

### Genetic summary

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Genetic breed identification:

**Golden Retriever**

Breed ancestry:

 **Golden Retriever: 100.0%**

Predicted adult weight: **72 lbs**

Calculated from 17 size genes.

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Life stage: **Young adult**

Based on date of birth provided.

# Health Report

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## How to interpret Lexi's genetic health results:

If Lexi 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 Lexi 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 255 genetic health risks we analyzed, we found 1 result that you should learn about.

### Notable results (1)

**Ichthyosis, ICH1**

### Clear results












**Breed-relevant (10)**

**Other (244)**

# Health Report

## BREED-RELEVANT RESULTS

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

 Ichthyosis, ICH1 (PNPLA1, Golden Retriever Variant)	Notable
 Congenital Myasthenic Syndrome, CMS (COLQ, Golden Retriever Variant)	Clear
 Degenerative Myelopathy, DM (SOD1A)	Clear
 Dystrophic Epidermolysis Bullosa (COL7A1, Golden Retriever Variant)	Clear
 Golden Retriever Progressive Retinal Atrophy 1, GR-PRA1 (SLC4A3)	Clear
 Golden Retriever Progressive Retinal Atrophy 2, GR-PRA2 (TTC8)	Clear
 Muscular Dystrophy (DMD, Golden Retriever Variant)	Clear
 Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 Deletion, Golden Retriever Variant)	Clear
 Osteogenesis Imperfecta (COL1A1, Golden Retriever Variant)	Clear
 Progressive Retinal Atrophy, prcd (PRCD Exon 1)	Clear
 Retina Dysplasia and/or Optic Nerve Hypoplasia (SIX6 Exon 1, Golden Retriever Variant)	Clear

# Health Report

## OTHER RESULTS

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

✓ 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
✓ Canine Multifocal Retinopathy, cmr3 (BEST1 Exon 10 Deletion, Finnish and Swedish Lapphund, Lapponian Herder Variant)	Clear

# Health Report

## OTHER RESULTS

<input checked="" type="checkbox"/> Canine Multiple System Degeneration (SERAC1 Exon 4, Chinese Crested Variant)	Clear
<input checked="" type="checkbox"/> Canine Multiple System Degeneration (SERAC1 Exon 15, Kerry Blue Terrier Variant)	Clear
<input checked="" type="checkbox"/> Cardiomyopathy and Juvenile Mortality (YARS2)	Clear
<input checked="" type="checkbox"/> Centronuclear Myopathy, CNM (PTPLA)	Clear
<input checked="" type="checkbox"/> Cerebellar Hypoplasia (VLDLR, Eurasier Variant)	Clear
<input checked="" type="checkbox"/> Chondrodystrophy (ITGA10, Norwegian Elkhound and Karelian Bear Dog Variant)	Clear
<input checked="" type="checkbox"/> Cleft Lip and/or Cleft Palate (ADAMTS20, Nova Scotia Duck Tolling Retriever Variant)	Clear
<input checked="" type="checkbox"/> Cleft Palate, CP1 (DLX6 intron 2, Nova Scotia Duck Tolling Retriever Variant)	Clear
<input checked="" type="checkbox"/> Cobalamin Malabsorption (CUBN Exon 8, Beagle Variant)	Clear
<input checked="" type="checkbox"/> Cobalamin Malabsorption (CUBN Exon 53, Border Collie Variant)	Clear
<input checked="" type="checkbox"/> Collie Eye Anomaly (NHEJ1)	Clear
<input checked="" type="checkbox"/> Complement 3 Deficiency, C3 Deficiency (C3)	Clear
<input checked="" type="checkbox"/> Congenital Cornification Disorder (NSDHL, Chihuahua Variant)	Clear
<input checked="" type="checkbox"/> Congenital Hypothyroidism (TPO, Rat, Toy, Hairless Terrier Variant)	Clear
<input checked="" type="checkbox"/> Congenital Hypothyroidism (TPO, Tenterfield Terrier Variant)	Clear
<input checked="" type="checkbox"/> Congenital Hypothyroidism with Goiter (TPO Intron 13, French Bulldog Variant)	Clear
<input checked="" type="checkbox"/> Congenital Hypothyroidism with Goiter (SLC5A5, Shih Tzu Variant)	Clear
<input checked="" type="checkbox"/> Congenital Macrothrombocytopenia (TUBB1 Exon 1, Cairn and Norfolk Terrier Variant)	Clear

# Health Report

## OTHER RESULTS

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|--|-------|
| <input checked="" type="checkbox"/> Congenital Myasthenic Syndrome, CMS (COLQ, Labrador Retriever Variant)                         | Clear |
| <input checked="" type="checkbox"/> Congenital Myasthenic Syndrome, CMS (CHAT, Old Danish Pointing Dog Variant)                    | Clear |
| <input checked="" type="checkbox"/> Congenital Myasthenic Syndrome, CMS (CHRNE, Jack Russell Terrier Variant)                      | Clear |
| <input checked="" type="checkbox"/> Congenital Stationary Night Blindness (LRIT3, Beagle Variant)                                  | Clear |
| <input checked="" type="checkbox"/> Congenital Stationary Night Blindness (RPE65, Briard Variant)                                  | Clear |
| <input checked="" type="checkbox"/> Craniomandibular Osteopathy, CMO (SLC37A2)   | Clear |
| <input checked="" type="checkbox"/> Craniomandibular Osteopathy, CMO (SLC37A2 Intron 16, Basset Hound Variant)                     | Clear |
| <input checked="" type="checkbox"/> Cystinuria Type I-A (SLC3A1, Newfoundland Variant)   | Clear |
| <input checked="" type="checkbox"/> Cystinuria Type II-A (SLC3A1, Australian Cattle Dog Variant)                                   | Clear |
| <input checked="" type="checkbox"/> Cystinuria Type II-B (SLC7A9, Miniature Pinscher Variant)                                      | Clear |
| <input checked="" type="checkbox"/> Day Blindness (CNGB3 Deletion, Alaskan Malamute Variant)                                       | Clear |
| <input checked="" type="checkbox"/> Day Blindness (CNGA3 Exon 7, German Shepherd Variant)  | Clear |
| <input checked="" type="checkbox"/> Day Blindness (CNGA3 Exon 7, Labrador Retriever Variant)                                       | Clear |
| <input checked="" type="checkbox"/> Day Blindness (CNGB3 Exon 6, German Shorthaired Pointer Variant)                               | Clear |
| <input checked="" type="checkbox"/> Deafness and Vestibular Syndrome of Dobermans, DVDob, DINGS (MYO7A)                            | Clear |
| <input checked="" type="checkbox"/> Demyelinating Polyneuropathy (SBF2/MTRM13)   | Clear |
| <input checked="" type="checkbox"/> Dental-Skeletal-Retinal Anomaly (MIA3, Cane Corso Variant)                                     | Clear |
| <input checked="" type="checkbox"/> Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis (INPP5E Intron 9, Norwich Terrier Variant) | Clear |

# Health Report

## OTHER RESULTS

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|---|-------|
| <input checked="" type="checkbox"/> Dilated Cardiomyopathy, DCM (RBM20, Schnauzer Variant)                          | Clear |
| <input checked="" type="checkbox"/> Dilated Cardiomyopathy, DCM1 (PDK4, Doberman Pinscher Variant 1)                | Clear |
| <input checked="" type="checkbox"/> Dilated Cardiomyopathy, DCM2 (TTN, Doberman Pinscher Variant 2)                 | Clear |
| <input checked="" type="checkbox"/> Disproportionate Dwarfism (PRKG2, Dogo Argentino Variant)                       | Clear |
| <input checked="" type="checkbox"/> Dry Eye Curly Coat Syndrome (FAM83H Exon 5)                                     | Clear |
| <input checked="" type="checkbox"/> Dystrophic Epidermolysis Bullosa (COL7A1, Central Asian Shepherd Dog Variant)   | Clear |
| <input checked="" type="checkbox"/> Early Bilateral Deafness (LOXHD1 Exon 38, Rottweiler Variant)                   | Clear |
| <input checked="" type="checkbox"/> Early Onset Adult Deafness, EOAD (EPS8L2 Deletion, Rhodesian Ridgeback Variant) | Clear |
| <input checked="" type="checkbox"/> Early Onset Cerebellar Ataxia (SEL1L, Finnish Hound Variant)                    | Clear |
| <input checked="" type="checkbox"/> Ehlers Danlos (ADAMTS2, Doberman Pinscher Variant)                              | Clear |
| <input checked="" type="checkbox"/> Enamel Hypoplasia (ENAM Deletion, Italian Greyhound Variant)                    | Clear |
| <input checked="" type="checkbox"/> Enamel Hypoplasia (ENAM SNP, Parson Russell Terrier Variant)                    | Clear |
| <input checked="" type="checkbox"/> Episodic Falling Syndrome (BCAN)  | Clear |
| <input checked="" type="checkbox"/> Exercise-Induced Collapse, EIC (DNM1)   | Clear |
| <input checked="" type="checkbox"/> Factor VII Deficiency (F7 Exon 5)   | Clear |
| <input checked="" type="checkbox"/> Factor XI Deficiency (F11 Exon 7, Kerry Blue Terrier Variant)                   | Clear |
| <input checked="" type="checkbox"/> Familial Nephropathy (COL4A4 Exon 3, Cocker Spaniel Variant)                    | Clear |
| <input checked="" type="checkbox"/> Familial Nephropathy (COL4A4 Exon 30, English Springer Spaniel Variant)         | Clear |

# Health Report

## OTHER RESULTS

- ✓ 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 (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](#)
- ✓ GM2 Gangliosidosis (HEXB, Poodle Variant) [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](#)



# Health Report

## OTHER RESULTS

<input checked="" type="checkbox"/> Hemophilia B (F9 Exon 7, Terrier Variant)	Clear
<input checked="" type="checkbox"/> Hemophilia B (F9 Exon 7, Rhodesian Ridgeback Variant)	Clear
<input checked="" type="checkbox"/> Hereditary Ataxia, Cerebellar Degeneration (RAB24, Old English Sheepdog and Gordon Setter Variant)	Clear
<input checked="" type="checkbox"/> Hereditary Cataracts (HSF4 Exon 9, Australian Shepherd Variant)	Clear
<input checked="" type="checkbox"/> Hereditary Footpad Hyperkeratosis (FAM83G, Terrier and Kromfohrlander Variant)	Clear
<input checked="" type="checkbox"/> Hereditary Footpad Hyperkeratosis (DSG1, Rottweiler Variant)	Clear
<input checked="" type="checkbox"/> Hereditary Nasal Parakeratosis (SUV39H2 Intron 4, Greyhound Variant)	Clear
<input checked="" type="checkbox"/> Hereditary Nasal Parakeratosis, HNPk (SUV39H2)	Clear
<input checked="" type="checkbox"/> Hereditary Vitamin D-Resistant Rickets (VDR)	Clear
<input checked="" type="checkbox"/> Hypocatalasia, Acatalasemia (CAT)	Clear
<input checked="" type="checkbox"/> Hypomyelination and Tremors (FNIP2, Weimaraner Variant)	Clear
<input checked="" type="checkbox"/> Hypophosphatasia (ALPL Exon 9, Karelian Bear Dog Variant)	Clear
<input checked="" type="checkbox"/> Ichthyosis (NIPAL4, American Bulldog Variant)	Clear
<input checked="" type="checkbox"/> Ichthyosis (ASPRV1 Exon 2, German Shepherd Variant)	Clear
<input checked="" type="checkbox"/> Ichthyosis (SLC27A4, Great Dane Variant)	Clear
<input checked="" type="checkbox"/> Ichthyosis, Epidermolytic Hyperkeratosis (KRT10, Terrier Variant)	Clear
<input checked="" type="checkbox"/> Inflammatory Myopathy (SLC25A12)	Clear
<input checked="" type="checkbox"/> Inherited Myopathy of Great Danes (BIN1)	Clear

# Health Report

## OTHER RESULTS

<input checked="" type="checkbox"/> Inherited Selected Cobalamin Malabsorption with Proteinuria (CUBN, Komondor Variant)	Clear
<input checked="" type="checkbox"/> Intervertebral Disc Disease (Type I) (FGF4 retrogene - CFA12)	Clear
<input checked="" type="checkbox"/> Intestinal Lipid Malabsorption (ACSL5, Australian Kelpie)	Clear
<input checked="" type="checkbox"/> Junctional Epidermolysis Bullosa (LAMA3 Exon 66, Australian Cattle Dog Variant)	Clear
<input checked="" type="checkbox"/> Junctional Epidermolysis Bullosa (LAMB3 Exon 11, Australian Shepherd Variant)	Clear
<input checked="" type="checkbox"/> Juvenile Epilepsy (LGI2)	Clear
<input checked="" type="checkbox"/> Juvenile Laryngeal Paralysis and Polyneuropathy (RAB3GAP1, Rottweiler Variant)	Clear
<input checked="" type="checkbox"/> Juvenile Myoclonic Epilepsy (DIRAS1)	Clear
<input checked="" type="checkbox"/> L-2-Hydroxyglutaricaciduria, L2HGA (L2HGDH, Staffordshire Bull Terrier Variant)	Clear
<input checked="" type="checkbox"/> Lagotto Storage Disease (ATG4D)	Clear
<input checked="" type="checkbox"/> Laryngeal Paralysis (RAPGEF6, Miniature Bull Terrier Variant)	Clear
<input checked="" type="checkbox"/> Late Onset Spinocerebellar Ataxia (CAPN1)	Clear
<input checked="" type="checkbox"/> Late-Onset Neuronal Ceroid Lipofuscinosis, NCL 12 (ATP13A2, Australian Cattle Dog Variant)	Clear
<input checked="" type="checkbox"/> Leonberger Polyneuropathy 1 (LPN1, ARHGEF10)	Clear
<input checked="" type="checkbox"/> Leonberger Polyneuropathy 2 (GJA9)	Clear
<input checked="" type="checkbox"/> Lethal Acrodermatitis, LAD (MKLN1)	Clear
<input checked="" type="checkbox"/> Leukodystrophy (TSEN54 Exon 5, Standard Schnauzer Variant)	Clear
<input checked="" type="checkbox"/> Ligneous Membranitis, LM (PLG)	Clear

# Health Report

## OTHER RESULTS

<input checked="" type="checkbox"/> Limb Girdle Muscular Dystrophy (SGCD, Boston Terrier Variant)	Clear
<input checked="" type="checkbox"/> Limb-Girdle Muscular Dystrophy 2D (SGCA Exon 3, Miniature Dachshund Variant)	Clear
<input checked="" type="checkbox"/> Long QT Syndrome (KCNQ1)	Clear
<input checked="" type="checkbox"/> Lundehund Syndrome (LEPREL1)	Clear
<input checked="" type="checkbox"/> Macular Corneal Dystrophy, MCD (CHST6)	Clear
<input checked="" type="checkbox"/> Malignant Hyperthermia (RYR1)	Clear
<input checked="" type="checkbox"/> May-Hegglin Anomaly (MYH9)	Clear
<input checked="" type="checkbox"/> Methemoglobinemia (CYB5R3, Pit Bull Terrier Variant)	Clear
<input checked="" type="checkbox"/> Methemoglobinemia (CYB5R3)	Clear
<input checked="" type="checkbox"/> Microphthalmia (RBP4 Exon 2, Soft Coated Wheaten Terrier Variant)	Clear
<input checked="" type="checkbox"/> Mucopolysaccharidosis IIIB, Sanfilippo Syndrome Type B, MPS IIIB (NAGLU, Schipperke Variant)	Clear
<input checked="" type="checkbox"/> Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, Dachshund Variant)	Clear
<input checked="" type="checkbox"/> Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6, New Zealand Huntaway Variant)	Clear
<input checked="" type="checkbox"/> Mucopolysaccharidosis Type VI, Maroteaux-Lamy Syndrome, MPS VI (ARSB Exon 5, Miniature Pinscher Variant)	Clear
<input checked="" type="checkbox"/> Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 3, German Shepherd Variant)	Clear
<input checked="" type="checkbox"/> Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 5, Terrier Brasileiro Variant)	Clear
<input checked="" type="checkbox"/> Multiple Drug Sensitivity (ABCB1)	Clear
<input checked="" type="checkbox"/> Muscular Dystrophy (DMD, Cavalier King Charles Spaniel Variant 1)	Clear

# Health Report

## OTHER RESULTS

<input checked="" type="checkbox"/> Musladin-Lueke Syndrome, MLS (ADAMTSL2)	Clear
<input checked="" type="checkbox"/> Myasthenia Gravis-Like Syndrome (CHRNE, Heideterrier Variant)	Clear
<input checked="" type="checkbox"/> Myotonia Congenita (CLCN1 Exon 23, Australian Cattle Dog Variant)	Clear
<input checked="" type="checkbox"/> Myotonia Congenita (CLCN1 Exon 7, Miniature Schnauzer Variant)	Clear
<input checked="" type="checkbox"/> Narcolepsy (HCRTR2 Exon 1, Dachshund Variant)	Clear
<input checked="" type="checkbox"/> Narcolepsy (HCRTR2 Intron 4, Doberman Pinscher Variant)	Clear
<input checked="" type="checkbox"/> Narcolepsy (HCRTR2 Intron 6, Labrador Retriever Variant)	Clear
<input checked="" type="checkbox"/> Nemaline Myopathy (NEB, American Bulldog Variant)	Clear
<input checked="" type="checkbox"/> Neonatal Cerebellar Cortical Degeneration (SPTBN2, Beagle Variant)	Clear
<input checked="" type="checkbox"/> Neonatal Encephalopathy with Seizures, NEWS (ATF2)	Clear
<input checked="" type="checkbox"/> Neonatal Interstitial Lung Disease (LAMP3)	Clear
<input checked="" type="checkbox"/> Neuroaxonal Dystrophy, NAD (VPS11, Rottweiler Variant)	Clear
<input checked="" type="checkbox"/> Neuroaxonal Dystrophy, NAD (TECPR2, Spanish Water Dog Variant)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 1, NCL 1 (PPT1 Exon 8, Dachshund Variant 1)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 10, NCL 10 (CTSD Exon 5, American Bulldog Variant)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 2, NCL 2 (TPP1 Exon 4, Dachshund Variant 2)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 5, NCL 5 (CLN5 Exon 4 SNP, Border Collie Variant)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 6, NCL 6 (CLN6 Exon 7, Australian Shepherd Variant)	Clear



















# Health Report

## OTHER RESULTS

<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 7, NCL 7 (MFSD8, Chihuahua and Chinese Crested Variant)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8, Australian Shepherd Variant)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 Exon 2, English Setter Variant)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 Insertion, Saluki Variant)	Clear
<input checked="" type="checkbox"/> Neuronal Ceroid Lipofuscinosis, Cerebellar Ataxia, NCL4A (ARSG Exon 2, American Staffordshire Terrier Variant)	Clear
<input checked="" type="checkbox"/> Oculocutaneous Albinism, OCA (SLC45A2 Exon 6, Bullmastiff Variant)	Clear
<input checked="" type="checkbox"/> Oculocutaneous Albinism, OCA (SLC45A2, Small Breed Variant)	Clear
<input checked="" type="checkbox"/> Oculoskeletal Dysplasia 2 (COL9A2, Samoyed Variant)	Clear
<input checked="" type="checkbox"/> Osteochondrodysplasia (SLC13A1, Poodle Variant)	Clear
<input checked="" type="checkbox"/> Osteogenesis Imperfecta (COL1A2, Beagle Variant)	Clear
<input checked="" type="checkbox"/> Osteogenesis Imperfecta (SERPINH1, Dachshund Variant)	Clear
<input checked="" type="checkbox"/> P2Y12 Receptor Platelet Disorder (P2Y12)	Clear
<input checked="" type="checkbox"/> Pachyonychia Congenita (KRT16, Dogue de Bordeaux Variant)	Clear
<input checked="" type="checkbox"/> Paroxysmal Dyskinesia, PxD (PIGN)	Clear
<input checked="" type="checkbox"/> Persistent Mullerian Duct Syndrome, PMDS (AMHR2)	Clear
<input checked="" type="checkbox"/> Pituitary Dwarfism (POU1F1 Intron 4, Karelian Bear Dog Variant)	Clear
<input checked="" type="checkbox"/> Platelet Factor X Receptor Deficiency, Scott Syndrome (TMEM16F)	Clear
<input checked="" type="checkbox"/> Polycystic Kidney Disease, PKD (PKD1)	Clear



















# Health Report

## OTHER RESULTS

 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
 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

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## OTHER RESULTS

 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
 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

# Health Report

## OTHER RESULTS

- |   |       |
|---|-------|
| <input checked="" type="checkbox"/> Skeletal Dysplasia 2, SD2 (COL11A2, Labrador Retriever Variant)                         | Clear |
| <input checked="" type="checkbox"/> Skin Fragility Syndrome (PKP1, Chesapeake Bay Retriever Variant)                        | Clear |
| <input checked="" type="checkbox"/> Spinocerebellar Ataxia (SCN8A, Alpine Dachsbracke Variant)                              | Clear |
| <input checked="" type="checkbox"/> Spinocerebellar Ataxia with Myokymia and/or Seizures (KCNJ10)                           | Clear |
| <input checked="" type="checkbox"/> Spongy Degeneration with Cerebellar Ataxia 1 (KCNJ10)                                   | Clear |
| <input checked="" type="checkbox"/> Spongy Degeneration with Cerebellar Ataxia 2 (ATP1B2)                                   | Clear |
| <input checked="" type="checkbox"/> Stargardt Disease (ABCA4 Exon 28, Labrador Retriever Variant)                           | Clear |
| <input checked="" type="checkbox"/> Succinic Semialdehyde Dehydrogenase Deficiency (ALDH5A1 Exon 7, Saluki Variant)         | Clear |
| <input checked="" type="checkbox"/> Thrombopathia (RASGRP1 Exon 5, American Eskimo Dog Variant)                             | Clear |
| <input checked="" type="checkbox"/> Thrombopathia (RASGRP1 Exon 5, Basset Hound Variant)                                    | Clear |
| <input checked="" type="checkbox"/> Thrombopathia (RASGRP1 Exon 8, Landseer Variant)  | Clear |
| <input checked="" type="checkbox"/> Trapped Neutrophil Syndrome, TNS (VPS13B)   | Clear |
| <input checked="" type="checkbox"/> Ullrich-like Congenital Muscular Dystrophy (COL6A3 Exon 10, Labrador Retriever Variant) | Clear |
| <input checked="" type="checkbox"/> Ullrich-like Congenital Muscular Dystrophy (COL6A1 Exon 3, Landseer Variant)            | Clear |
| <input checked="" type="checkbox"/> Unilateral Deafness and Vestibular Syndrome (PTPRQ Exon 39, Doberman Pinscher)          | Clear |
| <input checked="" type="checkbox"/> Urate Kidney & Bladder Stones (SLC2A9)  | Clear |
| <input checked="" type="checkbox"/> Von Willebrand Disease Type I, Type I vWD (VWF)   | Clear |
| <input checked="" type="checkbox"/> Von Willebrand Disease Type II, Type II vWD (VWF, Pointer Variant)                      | Clear |



# Health Report

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## OTHER RESULTS

- 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
- $\beta$ -Mannosidosis (MANBA Exon 16, Mixed-Breed Variant) Clear

# Health Report

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## HEALTH REPORT

### Notable result

#### Ichthyosis, ICH1

CRF Gal-Lexi inherited one copy of the variant we tested for Ichthyosis, ICH1

#### What does this result mean?

This result should not impact Lexi's health but it could have consequences for siblings or other related dogs if they inherited two copies of the variant. We recommend discussing this result with their owners or breeders if you are in contact.

#### Impact on Breeding

Your dog carries this variant and will pass it on to ~50% of her offspring.

#### What is Ichthyosis, ICH1?

This skin disorder gets its name from the thick, darkly pigmented scales of skin ("ichthys" is Greek for "fish") that affected dogs display over most areas of the body, not including the head or extremities.

#### When signs & symptoms develop in affected dogs

As puppies, affected dogs can show signs of scaling. This disease tends to worsen with age.

#### How vets diagnose this condition

Examining the characteristic lesions is the first step in diagnosing Ichthyosis. Confirmatory genetic testing and/or skin biopsies can also be performed.

#### How this condition is treated

There is no definitive treatment for ichthyosis: typically, ichthyotic dogs are maintained on a continuous treatment of mild anti-dandruff shampoos and moisturizing rinses. This is a chronic and frustrating condition to manage.

#### Actions to take if your dog is affected

- Following your veterinarian's advice on skin care and nutrition is the best way to manage ichthyosis.

# Genetic Diversity and Inbreeding

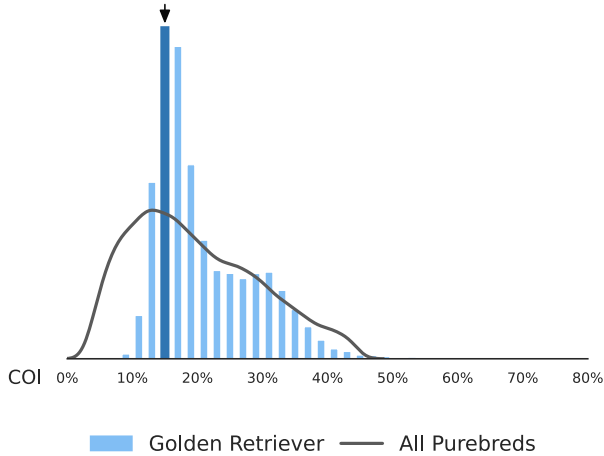
## Coefficient of Inbreeding (COI)

**Genetic Result: 14%**

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

Your Dog's COI: 14%



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

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## 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

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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 250 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](https://embarkvet.com)

Veterinarians and hospitals can send inquiries to [veterinarians@embarkvet.com](mailto:veterinarians@embarkvet.com).