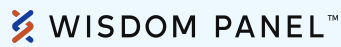


Leiva's Sweet Child O' Mine

Registration: [REDACTED]

Breed: Border Collie



Sample ID: [REDACTED]

Test Date: 12/1/2023

MyDogDNA

# DNA Test Report

## Owner Info

**First Name**

[REDACTED]

**Last Name**

[REDACTED]

## Pet Info

**Registered Name**

Leiva's Sweet Child O' Mine

**Date of Birth**

20/2/2020

**Nickname (Call Name)**

Leiva's Sweet Child O' Mine

**Sample ID**

[REDACTED]

**Sex**

Female

**Registration**

[REDACTED]

**Country of Origin**

ES

**Microchip ID**

[REDACTED]

**Owner Reported Breed**

Border Collie

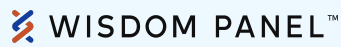
**Tattoo ID**

N/A

Leiva's Sweet Child O' Mine

Registration: [REDACTED]

Breed: Border Collie



Sample ID: [REDACTED]

Test Date: 12/1/2023

MyDogDNA

# DNA Test Report

## Genetic Diversity (Heterozygosity)

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### Leiva's Sweet Child O' Mine's Percentage of Heterozygosity

36%

Leiva's Sweet Child O' Mine's genome analysis shows an average level of genetic heterozygosity when compared with other Border Collies.

### Typical Range for Border Collies

32 - 39%

# DNA Test Report

## Health Conditions Known in This Breed

| Genetic Condition                                                    | Gene       | Risk Variant | Copies | Result |
|----------------------------------------------------------------------|------------|--------------|--------|--------|
| Collie Eye Anomaly (CEA)                                             | NHEJ1      | Deletion     | 0      | Clear  |
| Dental Hypomineralization                                            | FAM20C     | C>T          | 0      | Clear  |
| Early Adult Onset Deafness For Border Collies only (Linkage test)    | Intergenic | Insertion    | 0      | Clear  |
| Goniodysgenesis and Glaucoma (Discovered in the Border Collie)       | OLFML3     | G>A          | 0      | Clear  |
| Intestinal Cobalamin Malabsorption (Discovered in the Border Collie) | CUBN       | Deletion     | 0      | Clear  |
| MDR1 Medication Sensitivity                                          | MDR1/ABCB1 | Deletion     | 0      | Clear  |
| Sensory Neuropathy                                                   | FAM134B    | Insertion    | 0      | Clear  |
| Trapped Neutrophil Syndrome                                          | VPS13B     | Deletion     | 0      | Clear  |

## Other Conditions Tested

| Genetic Condition                                                  | Gene    | Risk Variant | Copies | Result |
|--------------------------------------------------------------------|---------|--------------|--------|--------|
| 2,8-dihydroxyadenine (DHA) Urolithiasis                            | APRT    | G>A          | 0      | Clear  |
| Acral Mutilation Syndrome                                          | GDNF    | C>T          | 0      | Clear  |
| Acute Respiratory Distress Syndrome                                | ANLN    | C>T          | 0      | Clear  |
| Alaskan Husky Encephalopathy                                       | SLC19A3 | G>A          | 0      | Clear  |
| Alexander Disease                                                  | GFAP    | G>A          | 0      | Clear  |
| Amelogenesis Imperfecta (Discovered in the Italian Greyhound)      | ENAM    | Deletion     | 0      | Clear  |
| Amelogenesis Imperfecta (Discovered in the Parson Russell Terrier) | ENAM    | C>T          | 0      | Clear  |
| Bandera's Neonatal Ataxia                                          | GRM1    | Insertion    | 0      | Clear  |
| Benign Familial Juvenile Epilepsy                                  | LGI2    | A>T          | 0      | Clear  |
| Canine Leukocyte Adhesion Deficiency (CLAD), type III              | FERMT3  | Insertion    | 0      | Clear  |
| Canine Multifocal Retinopathy 1                                    | BEST1   | C>T          | 0      | Clear  |
| Canine Multifocal Retinopathy 2                                    | BEST1   | G>A          | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                                  | Gene     | Risk Variant | Copies | Result |
|------------------------------------------------------------------------------------|----------|--------------|--------|--------|
| Canine Multifocal Retinopathy 3                                                    | BEST1    | Deletion     | 0      | Clear  |
| Canine Scott Syndrome                                                              | ANO6     | G>A          | 0      | Clear  |
| Centronuclear Myopathy (Discovered in the Great Dane)                              | BIN1     | A>G          | 0      | Clear  |
| Centronuclear Myopathy (Discovered in the Labrador Retriever)                      | PTPLA    | Insertion    | 0      | Clear  |
| Cerebellar Ataxia                                                                  | RAB24    | A>C          | 0      | Clear  |
| Cerebellar Cortical Degeneration                                                   | SNX14    | C>T          | 0      | Clear  |
| Cerebellar Hypoplasia                                                              | VLDLR    | Deletion     | 0      | Clear  |
| Cerebral Dysfunction                                                               | SLC6A3   | G>A          | 0      | Clear  |
| Chondrodysplasia (Discovered in Norwegian Elkhound and Karelian Bear Dog)          | ITGA10   | C>T          | 0      | Clear  |
| Cleft Lip & Palate with Syndactyly                                                 | ADAMTS20 | Deletion     | 0      | Clear  |
| Cleft Palate                                                                       | DLX6     | C>A          | 0      | Clear  |
| Complement 3 Deficiency                                                            | C3       | Deletion     | 0      | Clear  |
| Cone Degeneration (Discovered in the Alaskan Malamute)                             | CNGB3    | Deletion     | 0      | Clear  |
| Cone Degeneration (Discovered in the German Shepherd Dog)                          | CNGA3    | C>T          | 0      | Clear  |
| Cone Degeneration (Discovered in the German Shorthaired Pointer)                   | CNGB3    | G>A          | 0      | Clear  |
| Cone-Rod Dystrophy                                                                 | NPHP4    | Deletion     | 0      | Clear  |
| Cone-Rod Dystrophy 1                                                               | PDE6B    | Deletion     | 0      | Clear  |
| Cone-Rod Dystrophy 2                                                               | IQCB1    | Insertion    | 0      | Clear  |
| Congenital Dyshormonogenic Hypothyroidism with Goiter (Discovered in the Shih Tzu) | SLC5A5   | G>A          | 0      | Clear  |
| Congenital Hypothyroidism (Discovered in the Tenterfield Terrier)                  | TPO      | C>T          | 0      | Clear  |
| Congenital Hypothyroidism (Discovered in the Toy Fox and Rat Terrier)              | TPO      | C>T          | 0      | Clear  |
| Congenital Myasthenic Syndrome (Discovered in the Golden Retriever)                | COLQ     | G>A          | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                                | Gene         | Risk Variant | Copies | Result |
|----------------------------------------------------------------------------------|--------------|--------------|--------|--------|
| Congenital Myasthenic Syndrome (Discovered in the Jack Russell Terrier)          | CHRNE        | Insertion    | 0      | Clear  |
| Congenital Myasthenic Syndrome (Discovered in the Labrador Retriever)            | COLQ         | T>C          | 0      | Clear  |
| Congenital Myasthenic Syndrome (Discovered in the Old Danish Pointer)            | CHAT         | G>A          | 0      | Clear  |
| Congenital Stationary Night Blindness (CSNB)                                     | RPE65        | A>T          | 0      | Clear  |
| Craniomandibular Osteopathy (Discovered in Scottish Terrier breeds)              | SLC37A2      | C>T          | 0      | Clear  |
| Cystic Renal Dysplasia and Hepatic Fibrosis                                      | INPP5E       | G>A          | 0      | Clear  |
| Cystinuria Type I-A                                                              | SLC3A1       | C>T          | 0      | Clear  |
| Cystinuria Type II-A                                                             | SLC3A1       | Deletion     | 0      | Clear  |
| Deafness and Vestibular Dysfunction (DINGS1), (Discovered in Doberman Pinscher)  | PTPRQ        | Insertion    | 0      | Clear  |
| Degenerative Myelopathy                                                          | SOD1         | G>A          | 0      | Clear  |
| Demyelinating Neuropathy                                                         | SBF2         | G>T          | 0      | Clear  |
| Dilated Cardiomyopathy (Discovered in the Schnauzer)                             | RBM20        | Deletion     | 0      | Clear  |
| Dominant Progressive Retinal Atrophy                                             | RHO          | C>G          | 0      | Clear  |
| Dystrophic Epidermolysis Bullosa (Discovered in the Central Asian Ovcharka)      | COL7A1       | C>T          | 0      | Clear  |
| Dystrophic Epidermolysis Bullosa (Discovered in the Golden Retriever)            | COL7A1       | C>T          | 0      | Clear  |
| Early Retinal Degeneration (Discovered in the Norwegian Elkhound)                | STK38L       | Insertion    | 0      | Clear  |
| Early-Onset Progressive Polyneuropathy (Discovered in the Alaskan Malamute)      | NDRG1        | G>T          | 0      | Clear  |
| Early-Onset Progressive Polyneuropathy (Discovered in the Greyhound)             | NDRG1        | Deletion     | 0      | Clear  |
| Early-Onset Progressive Retinal Atrophy (Discovered in the Portuguese Water Dog) | Confidential | —            | 0      | Clear  |
| Epidermolytic Hyperkeratosis                                                     | KRT10        | G>T          | 0      | Clear  |
| Episodic Falling Syndrome                                                        | BCAN         | Insertion    | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                       | Gene   | Risk Variant | Copies | Result |
|-------------------------------------------------------------------------|--------|--------------|--------|--------|
| Exercise-Induced Collapse                                               | DNM1   | G>T          | 0      | Clear  |
| Factor VII Deficiency                                                   | F7     | G>A          | 0      | Clear  |
| Factor XI Deficiency                                                    | FXI    | Insertion    | 0      | Clear  |
| Fanconi Syndrome                                                        | FAN1   | Deletion     | 0      | Clear  |
| Fetal Onset Neuroaxonal Dystrophy                                       | MFN2   | G>C          | 0      | Clear  |
| Focal Non-Epidermolytic Palmoplantar Keratoderma                        | KRT16  | G>C          | 0      | Clear  |
| Generalized Progressive Retinal Atrophy (Discovered in the Schapendoes) | CCDC66 | Insertion    | 0      | Clear  |
| Glanzmann Thrombasthenia Type I (Discovered in Great Pyrenees)          | ITGA2B | C>G          | 0      | Clear  |
| Glanzmann Thrombasthenia Type I (Discovered in mixed breed dogs)        | ITGA2B | C>T          | 0      | Clear  |
| Globoid Cell Leukodystrophy (Discovered in Terriers)                    | GALC   | A>C          | 0      | Clear  |
| Globoid Cell Leukodystrophy (Discovered in the Irish Setter)            | GALC   | A>T          | 0      | Clear  |
| Glycogen Storage Disease Type Ia (Discovered in the Maltese)            | G6PC   | G>C          | 0      | Clear  |
| Glycogen Storage Disease Type IIIa, (GSD IIIa)                          | AGL    | Deletion     | 0      | Clear  |
| GM1 Gangliosidosis (Discovered in the Portuguese Water Dog)             | GLB1   | G>A          | 0      | Clear  |
| GM1 Gangliosidosis (Discovered in the Shiba)                            | GLB1   | Deletion     | 0      | Clear  |
| GM2 Gangliosidosis (Discovered in the Japanese Chin)                    | HEXA   | G>A          | 0      | Clear  |
| GM2 Gangliosidosis (Discovered in the Toy Poodle)                       | HEXB   | Deletion     | 0      | Clear  |
| Hemophilia A (Discovered in Old English Sheepdog)                       | FVIII  | C>T          | 0      | Clear  |
| Hemophilia A (Discovered in the Boxer)                                  | FVIII  | C>G          | 0      | Clear  |
| Hemophilia A (Discovered in the German Shepherd Dog - Variant 1)        | FVIII  | G>A          | 0      | Clear  |
| Hemophilia A (Discovered in the German Shepherd Dog - Variant 2)        | FVIII  | G>A          | 0      | Clear  |
| Hemophilia A (Discovered in the Havanese)                               | FVIII  | Insertion    | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                            | Gene         | Risk Variant | Copies | Result |
|------------------------------------------------------------------------------|--------------|--------------|--------|--------|
| Hemophilia B                                                                 | FIX          | G>A          | 0      | Clear  |
| Hemophilia B (Discovered in the Airedale Terrier)                            | FIX          | Insertion    | 0      | Clear  |
| Hemophilia B (Discovered in the Lhasa Apso)                                  | FIX          | Deletion     | 0      | Clear  |
| Hereditary Ataxia (Discovered in the Norwegian Buhund)                       | KCNIP4       | T>C          | 0      | Clear  |
| Hereditary Elliptocytosis                                                    | SPTB         | C>T          | 0      | Clear  |
| Hereditary Footpad Hyperkeratosis                                            | FAM83G       | G>C          | 0      | Clear  |
| Hereditary Nasal Parakeratosis (Discovered in the Greyhound)                 | SUV39H2      | Deletion     | 0      | Clear  |
| Hereditary Nasal Parakeratosis (Discovered in the Labrador Retriever)        | SUV39H2      | A>C          | 0      | Clear  |
| Hereditary Vitamin D-Resistant Rickets Type II                               | VDR          | Deletion     | 0      | Clear  |
| Hyperuricosuria                                                              | SLC2A9       | G>T          | 0      | Clear  |
| Hypocatalasia                                                                | CAT          | G>A          | 0      | Clear  |
| Hypomyelination                                                              | FNIP2        | Deletion     | 0      | Clear  |
| Hypophosphatasia                                                             | Confidential | —            | 0      | Clear  |
| Ichthyosis (Discovered in the American Bulldog)                              | NIPAL4       | Deletion     | 0      | Clear  |
| Ichthyosis (Discovered in the Great Dane)                                    | SLC27A4      | G>A          | 0      | Clear  |
| Intestinal Cobalamin Malabsorption (Discovered in the Beagle)                | CUBN         | Deletion     | 0      | Clear  |
| Intestinal Cobalamin Malabsorption (Discovered in the Komondor)              | CUBN         | G>A          | 0      | Clear  |
| Juvenile Encephalopathy (Discovered in the Parson Russell Terrier)           | Confidential | —            | 0      | Clear  |
| Juvenile Laryngeal Paralysis and Polyneuropathy                              | RAB3GAP1     | Deletion     | 0      | Clear  |
| Juvenile Myoclonic Epilepsy                                                  | DIRAS1       | Deletion     | 0      | Clear  |
| L-2-Hydroxyglutaric aciduria (Discovered in the Staffordshire Bull Terrier)  | L2HGDH       | T>C          | 0      | Clear  |
| L-2-Hydroxyglutaric Aciduria (Discovered in the West Highland White Terrier) | Confidential | —            | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                        | Gene       | Risk Variant | Copies | Result |
|--------------------------------------------------------------------------|------------|--------------|--------|--------|
| Lagotto Storage Disease                                                  | ATG4D      | G>A          | 0      | Clear  |
| Lamellar Ichthyosis                                                      | TGM1       | Insertion    | 0      | Clear  |
| Lethal Acrodermatitis (Discovered in the Bull Terrier)                   | MKLN1      | A>C          | 0      | Clear  |
| Ligneous Membranitis                                                     | PLG        | T>A          | 0      | Clear  |
| Lung Developmental Disease (Discovered in the Airedale Terrier)          | LAMP3      | C>T          | 0      | Clear  |
| Macrothrombocytopenia (Discovered in Norfolk and Cairn Terrier)          | TUBB1      | G>A          | 0      | Clear  |
| May-Hegglin Anomaly                                                      | MYH9       | G>A          | 0      | Clear  |
| Microphthalmia (Discovered in the Soft-Coated Wheaten Terrier)           | RBP4       | Deletion     | 0      | Clear  |
| Mucopolysaccharidosis Type IIIA (Discovered in the Dachshund)            | SGSH       | C>A          | 0      | Clear  |
| Mucopolysaccharidosis Type IIIA (Discovered in the New Zealand Huntaway) | SGSH       | Insertion    | 0      | Clear  |
| Mucopolysaccharidosis Type VII (Discovered in the Brazilian Terrier)     | GUSB       | C>T          | 0      | Clear  |
| Mucopolysaccharidosis Type VII (Discovered in the German Shepherd Dog)   | GUSB       | G>A          | 0      | Clear  |
| Muscular Dystrophy (Discovered in the Cavalier King Charles Spaniel)     | Dystrophin | G>T          | 0      | Clear  |
| Muscular Dystrophy (Discovered in the Golden Retriever)                  | Dystrophin | A>G          | 0      | Clear  |
| Muscular Dystrophy (Discovered in the Landseer)                          | COL6A1     | G>T          | 0      | Clear  |
| Muscular Dystrophy (Discovered in the Norfolk Terrier)                   | Dystrophin | Deletion     | 0      | Clear  |
| Muscular Hypertrophy (Double Muscling)                                   | MSTN       | T>A          | 0      | Clear  |
| Musladin-Lueke Syndrome                                                  | ADAMTSL2   | C>T          | 0      | Clear  |
| Myeloperoxidase Deficiency                                               | MOP        | C>T          | 0      | Clear  |
| Myotonia Congenita (Discovered in Australian Cattle Dog)                 | CLCN1      | Insertion    | 0      | Clear  |
| Myotonia Congenita (Discovered in the Labrador Retriever)                | CLCN1      | T>A          | 0      | Clear  |
| Myotonia Congenita (Discovered in the Miniature Schnauzer)               | CLCN1      | C>T          | 0      | Clear  |



# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                           | Gene     | Risk Variant | Copies | Result |
|-----------------------------------------------------------------------------|----------|--------------|--------|--------|
| Myotubular Myopathy                                                         | MTM1     | A>C          | 0      | Clear  |
| Narcolepsy (Discovered in the Dachshund)                                    | HCRT2    | G>A          | 0      | Clear  |
| Narcolepsy (Discovered in the Labrador Retriever)                           | HCRT2    | G>A          | 0      | Clear  |
| Nemaline Myopathy                                                           | NEB      | C>A          | 0      | Clear  |
| Neonatal Cerebellar Cortical Degeneration                                   | SPTBN2   | Deletion     | 0      | Clear  |
| Neonatal Encephalopathy with Seizures                                       | ATF2     | T>G          | 0      | Clear  |
| Neuroaxonal Dystrophy (Discovered in Spanish Water Dog)                     | TECPR2   | C>T          | 0      | Clear  |
| Neuroaxonal Dystrophy (Discovered in the Papillon)                          | PLA2G6   | G>A          | 0      | Clear  |
| Neuroaxonal Dystrophy (Discovered in the Rottweiler)                        | VPS11    | A>G          | 0      | Clear  |
| Neuronal Ceroid Lipofuscinosis 1                                            | PPT1     | Insertion    | 0      | Clear  |
| Neuronal Ceroid Lipofuscinosis 12 (Discovered in the Australian Cattle Dog) | ATP13A2  | C>T          | 0      | Clear  |
| Neuronal Ceroid Lipofuscinosis 7                                            | MFSD8    | Deletion     | 0      | Clear  |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Alpine Dachsbracke)     | CLN8     | Deletion     | 0      | Clear  |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Australian Shepherd)    | CLN8     | G>A          | 0      | Clear  |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the English Setter)         | CLN8     | T>C          | 0      | Clear  |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Saluki)                 | CLN8     | Insertion    | 0      | Clear  |
| Obesity risk (POMC)                                                         | POMC     | Deletion     | 0      | Clear  |
| Osteochondrodysplasia                                                       | SLC13A1  | Deletion     | 0      | Clear  |
| Osteochondromatosis (Discovered in the American Staffordshire Terrier)      | EXT2     | C>A          | 0      | Clear  |
| Osteogenesis Imperfecta (Discovered in the Beagle)                          | COL1A2   | C>T          | 0      | Clear  |
| Osteogenesis Imperfecta (Discovered in the Dachshund)                       | SERPINH1 | T>C          | 0      | Clear  |
| P2RY12-associated Bleeding Disorder                                         | P2RY12   | Deletion     | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                                  | Gene         | Risk Variant | Copies | Result |
|------------------------------------------------------------------------------------|--------------|--------------|--------|--------|
| Paroxysmal Dyskinesia                                                              | PIGN         | C>T          | 0      | Clear  |
| Persistent Müllerian Duct Syndrome                                                 | AMHR2        | C>T          | 0      | Clear  |
| Phosphofructokinase Deficiency                                                     | PFKM         | G>A          | 0      | Clear  |
| Polycystic Kidney Disease                                                          | PKD1         | G>A          | 0      | Clear  |
| Prekallikrein Deficiency                                                           | KLKB1        | T>A          | 0      | Clear  |
| Primary Ciliary Dyskinesia                                                         | CCDC39       | C>T          | 0      | Clear  |
| Primary Ciliary Dyskinesia (Discovered in the Alaskan Malamute)                    | NME5         | Deletion     | 0      | Clear  |
| Primary Lens Luxation                                                              | ADAMTS17     | G>A          | 0      | Clear  |
| Primary Open Angle Glaucoma (Discovered in Basset Fauve de Bretagne)               | ADAMTS17     | G>A          | 0      | Clear  |
| Primary Open Angle Glaucoma (Discovered in Petit Basset Griffon Vendeen)           | ADAMTS17     | Insertion    | 0      | Clear  |
| Primary Open Angle Glaucoma and Lens Luxation (Discovered in Chinese Shar-Pei)     | ADAMTS17     | Deletion     | 0      | Clear  |
| Progressive Early-Onset Cerebellar Ataxia                                          | SEL1L        | T>C          | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Basenji)                            | SAG          | T>C          | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Golden Retriever - GR-PRA1 variant) | SLC4A3       | Insertion    | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Lhasa Apso)                         | Confidential | —            | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Papillon and Phalène)               | CNGB1        | Deletion     | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog - BBS2 variant)   | Confidential | —            | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog - CNGA1 variant)  | CNGA1        | Deletion     | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Swedish Vallhund)                   | MERTK        | Insertion    | 0      | Clear  |
| Progressive Retinal Atrophy 1 (Discovered in the Italian Greyhound)                | Confidential | —            | 0      | Clear  |
| Progressive Retinal Atrophy Type III                                               | FAM161A      | Insertion    | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                                   | Gene         | Risk Variant | Copies | Result |
|-------------------------------------------------------------------------------------|--------------|--------------|--------|--------|
| Progressive Rod Cone Degeneration (prcd-PRA)                                        | PRCD         | G>A          | 0      | Clear  |
| Protein Losing Nephropathy                                                          | NPHS1        | G>A          | 0      | Clear  |
| Pyruvate Dehydrogenase Phosphatase 1 Deficiency                                     | PDP1         | C>T          | 0      | Clear  |
| Pyruvate Kinase Deficiency (Discovered in the Basenji)                              | PKLR         | Deletion     | 0      | Clear  |
| Pyruvate Kinase Deficiency (Discovered in the Beagle)                               | PKLR         | G>A          | 0      | Clear  |
| Pyruvate Kinase Deficiency (Discovered in the Pug)                                  | PKLR         | T>C          | 0      | Clear  |
| Pyruvate Kinase Deficiency (Discovered in the West Highland White Terrier)          | PKLR         | Insertion    | 0      | Clear  |
| QT Syndrome                                                                         | KCNQ1        | C>A          | 0      | Clear  |
| Renal Cystadenocarcinoma and Nodular Dermatofibrosis                                | FLCN         | A>G          | 0      | Clear  |
| Rod-Cone Dysplasia 1                                                                | PDE6B        | G>A          | 0      | Clear  |
| Rod-Cone Dysplasia 1a                                                               | PDE6B        | Insertion    | 0      | Clear  |
| Rod-Cone Dysplasia 3                                                                | PDE6A        | Deletion     | 0      | Clear  |
| Sensory Ataxic Neuropathy                                                           | tRNATyr      | Deletion     | 0      | Clear  |
| Severe Combined Immunodeficiency (Discovered in Frisian Water Dogs)                 | RAG1         | G>T          | 0      | Clear  |
| Severe Combined Immunodeficiency (Discovered in Russell Terriers)                   | PRKDC        | G>T          | 0      | Clear  |
| Shaking Puppy Syndrome (Discovered in the Border Terrier)                           | Confidential | —            | 0      | Clear  |
| Skeletal Dysplasia 2                                                                | COL11A2      | G>C          | 0      | Clear  |
| Spinocerebellar Ataxia (Late-Onset Ataxia)                                          | CAPN1        | G>A          | 0      | Clear  |
| Spinocerebellar Ataxia with Myokymia and/or Seizures                                | KCNJ10       | C>G          | 0      | Clear  |
| Spondylocostal Dysostosis                                                           | HES7         | Deletion     | 0      | Clear  |
| Spongy Degeneration with Cerebellar Ataxia (Discovered in Belgian Malinois - SDCA1) | KCNJ10       | T>C          | 0      | Clear  |
| Spongy Degeneration with Cerebellar Ataxia (Discovered in Belgian Malinois - SDCA2) | ATP1B2       | Insertion    | 0      | Clear  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition                                                                  | Gene         | Risk Variant | Copies | Result |
|------------------------------------------------------------------------------------|--------------|--------------|--------|--------|
| Stargardt Disease (Discovered in the Labrador Retriever)                           | ABCA4        | Insertion    | 0      | Clear  |
| Startle Disease (Discovered in Irish Wolfhounds)                                   | SLC6A5       | G>T          | 0      | Clear  |
| Van den Ende-Gupta Syndrome                                                        | SCARF2       | Deletion     | 0      | Clear  |
| von Willebrand's Disease, type 1                                                   | VWF          | G>A          | 0      | Clear  |
| von Willebrand's Disease, type 2                                                   | VWF          | T>G          | 0      | Clear  |
| von Willebrand's Disease, type 3 (Discovered in the Kooiker Hound)                 | VWF          | G>A          | 0      | Clear  |
| von Willebrand's Disease, type 3 (Discovered in the Scottish Terrier)              | VWF          | Deletion     | 0      | Clear  |
| von Willebrand's Disease, type 3 (Discovered in the Shetland Sheepdog)             | VWF          | Deletion     | 0      | Clear  |
| X-Linked Ectodermal Dysplasia                                                      | EDA          | G>A          | 0      | Clear  |
| X-Linked Hereditary Nephropathy (Discovered in the Navasota Dog)                   | COL4A5       | Deletion     | 0      | Clear  |
| X-Linked Hereditary Nephropathy (Discovered in the Samoyed)                        | COL4A5       | G>T          | 0      | Clear  |
| X-Linked Myotubular Myopathy                                                       | MTM1         | C>A          | 0      | Clear  |
| X-Linked Progressive Retinal Atrophy 1                                             | RPGR         | Deletion     | 0      | Clear  |
| X-Linked Progressive Retinal Atrophy 2                                             | RPGR         | Deletion     | 0      | Clear  |
| X-Linked Severe Combined Immunodeficiency (Discovered in the Basset Hound)         | IL2RG        | Deletion     | 0      | Clear  |
| X-Linked Severe Combined Immunodeficiency (Discovered in the Cardigan Welsh Corgi) | IL2RG        | Insertion    | 0      | Clear  |
| X-Linked Tremors                                                                   | PLP1         | A>C          | 0      | Clear  |
| Xanthinuria (Discovered in a mixed breed dog)                                      | Confidential | —            | 0      | Clear  |
| Xanthinuria (Discovered in the Cavalier King Charles Spaniel)                      | Confidential | —            | 0      | Clear  |
| Xanthinuria (Discovered in the Toy Manchester Terrier)                             | Confidential | —            | 0      | Clear  |

# DNA Test Report

## Coat Color

| Genetic Trait                                            | Gene   | Variant        | Copies | Result                      |
|----------------------------------------------------------|--------|----------------|--------|-----------------------------|
| Fawn                                                     | ASIP   | a <sup>y</sup> | 0      | No effect                   |
| Recessive Black                                          | ASIP   | a              | 0      | No effect                   |
| Tan Points                                               | ASIP   | a <sup>t</sup> | 2      | <b>Tan points possible</b>  |
| Dominant Black                                           | CBD103 | K <sup>B</sup> | 2      | <b>Black possible</b>       |
| Mask                                                     | MC1R   | E <sup>m</sup> | 1      | <b>Dark Muzzle possible</b> |
| Recessive Red (e1)                                       | MC1R   | e <sup>1</sup> | 0      | No effect                   |
| Recessive Red (e2)                                       | MC1R   | e <sup>2</sup> | 0      | No effect                   |
| Recessive Red (e3)                                       | MC1R   | e <sup>3</sup> | 0      | No effect                   |
| Widow's Peak (Discovered in Ancient dogs)                | MC1R   | e <sup>A</sup> | 0      | No effect                   |
| Widow's Peak (Discovered in the Afghan Hound and Saluki) | MC1R   | E <sup>G</sup> | 0      | No effect                   |

## Color Modification

| Genetic Trait              | Gene   | Variant          | Copies | Result                                           |
|----------------------------|--------|------------------|--------|--------------------------------------------------|
| Red Intensity              | MFSD12 | i                | 0      | No effect                                        |
| Dilution (d1) Linkage test | MLPH   | d <sup>1</sup>   | 0      | No effect                                        |
| Dilution (d2)              | MLPH   | d <sup>2</sup>   | 0      | No effect                                        |
| Dilution (d3)              | MLPH   | d <sup>3</sup>   | 0      | No effect                                        |
| Chocolate (basd)           | TYRP1  | b <sup>asd</sup> | 0      | No effect                                        |
| Chocolate (bc)             | TYRP1  | b <sup>c</sup>   | 0      | No effect                                        |
| Chocolate (bd)             | TYRP1  | b <sup>d</sup>   | 0      | No effect                                        |
| Chocolate (bs)             | TYRP1  | b <sup>s</sup>   | 1      | <b>Black features likely, chocolate possible</b> |

# DNA Test Report

## Coat Patterns

| Genetic Trait | Gene  | Variant        | Copies | Result          |
|---------------|-------|----------------|--------|-----------------|
| Piebald       | MITF  | s <sup>p</sup> | 0      | No effect       |
| Merle         | PMEL  | M              | 1      | Merle possible  |
| Harlequin     | PSMB7 | H              | 0      | No effect       |
| Saddle Tan    | RALY  | -              | 2      | Saddle possible |

## Coat Length and Curl

| Genetic Trait   | Gene  | Variant         | Copies | Result    |
|-----------------|-------|-----------------|--------|-----------|
| Long Hair (lh1) | FGF5  | lh <sup>1</sup> | 2      | Long coat |
| Long Hair (lh2) | FGF5  | lh <sup>2</sup> | 0      | No effect |
| Long Hair (lh3) | FGF5  | lh <sup>3</sup> | 0      | No effect |
| Long Hair (lh4) | FGF5  | lh <sup>4</sup> | 0      | No effect |
| Long Hair (lh5) | FGF5  | lh <sup>5</sup> | 0      | No effect |
| Curly Coat      | KRT71 | C               | 0      | No effect |

## Hairlessness

| Genetic Trait                                                     | Gene  | Variant           | Copies | Result    |
|-------------------------------------------------------------------|-------|-------------------|--------|-----------|
| Hairlessness (Discovered in the Chinese Crested Dog) Linkage test | FOXI3 | Hr <sup>cc</sup>  | 0      | No effect |
| Hairlessness (Discovered in the American Hairless Terrier)        | SGK3  | hr <sup>aht</sup> | 0      | No effect |
| Hairlessness (Discovered in the Scottish Deerhound)               | SGK3  | hr <sup>sd</sup>  | 0      | No effect |

## Shedding

| Genetic Trait    | Gene | Variant | Copies | Result           |
|------------------|------|---------|--------|------------------|
| Reduced Shedding | MC5R | sd      | 0      | Seasonal shedder |

# DNA Test Report

## More Coat Traits

| Genetic Trait | Gene                         | Variant         | Copies | Result    |
|---------------|------------------------------|-----------------|--------|-----------|
| Hair Ridge    | FGF3, FGF4,<br>FGF19, ORAOV1 | R               | 0      | No effect |
| Furnishings   | RSP02                        | F               | 0      | No effect |
| Albino        | SLC45A2                      | c <sup>al</sup> | 0      | No effect |

## Head Shape

| Genetic Trait               | Gene  | Variant | Copies | Result    |
|-----------------------------|-------|---------|--------|-----------|
| Short Snout (BMP3 variant)  | BMP3  | -       | 0      | No effect |
| Short Snout (SMOC2 variant) | SMOC2 | -       | 0      | No effect |

## Eye Color

| Genetic Trait                                | Gene | Variant | Copies | Result    |
|----------------------------------------------|------|---------|--------|-----------|
| Blue Eyes (Discovered in the Siberian Husky) | ALX4 | -       | 0      | No effect |

## Ears

| Genetic Trait | Gene  | Variant | Copies | Result                   |
|---------------|-------|---------|--------|--------------------------|
| Floppy Ears   | MSRB3 | -       | 0      | Pricked ears more likely |

## Extra Toes

| Genetic Trait                                | Gene  | Variant | Copies | Result    |
|----------------------------------------------|-------|---------|--------|-----------|
| Hind Dewclaws (Discovered in Asian breeds)   | LMBR1 | DC-1    | 0      | No effect |
| Hind Dewclaws (Discovered in Western breeds) | LMBR1 | DC-2    | 0      | No effect |

Leiva's Sweet Child O' Mine

Registration: [REDACTED]

Breed: Border Collie

Sample ID: [REDACTED]

Test Date: 12/1/2023

MyDogDNA

# DNA Test Report

## More Body Features

| Genetic Trait                       | Gene  | Variant | Copies | Result                  |
|-------------------------------------|-------|---------|--------|-------------------------|
| Back Muscle and Bulk                | ACSL4 | -       | 0      | No effect               |
| High Altitude Adaptation            | EPAS1 | -       | 0      | No effect               |
| Short Legs (Chondrodysplasia, CDPA) | FGF4  | -       | 0      | No effect               |
| Short Tail                          | T-box | T       | 0      | Full tail length likely |