WISDOM PANEL™

# DNA Test Report



## Owner Info

**First Name**
Profiling

**Last Name**
Owner

## Pet Info

**Registered Name**
OSD Offspring

**Date of Birth**
5/6/2022

**Nickname (Call Name)**
OSD Offspring

**Sample ID**
DSPRBRR

**Sex**
Female

**Registration**
N/A

**Country of Origin**
N/A

**Microchip ID**
N/A

**Owner Reported Breed**
N/A

**Tattoo ID**
N/A

## Genetic Diversity (Heterozygosity)

**OSD Offspring's Percentage of Heterozygosity**

39%

OSD Offspring's genome analysis shows an average level of genetic heterozygosity when compared with other mixed-breed dogs.

**Typical Range for Mixed-Breed Dogs**

33 - 46%

## Health 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 Lancashire Heeler) | Confidential | — | 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 |
| Bernard-Soulier Syndrome (Discovered in the Cocker Spaniel) | GP9 | Deletion | 0 | Clear |
| Canine Congenital Stationary Night Blindness (Discovered in the Beagle) | LRIT3 | Deletion | 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 |
| Canine Multifocal Retinopathy 3 | BEST1 | Deletion | 0 | Clear |
| Canine Multiple Systems Degeneration (Discovered in the Chinese Crested Dog) | SERAC1 | Deletion | 0 | Clear |
| Canine Scott Syndrome | ANO6 | G>A | 0 | Clear |
| Cardiomyopathy and Juvenile Mortality (Discovered in the Belgian Shepherd) | YARS2 | 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 |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| 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 |
| Chondrodystrophy (CDDY) and Intervertebral Disc Disease (IVDD) Risk | FGF4 retrogene | Insertion | 0 | Clear |
| Cleft Lip & Palate with Syndactyly | ADAMTS20 | Deletion | 0 | Clear |
| Cleft Palate | DLX6 | C>A | 0 | Clear |
| CNS Atrophy with Cerebellar Ataxia (Discovered in the Belgian Shepherd) | SEPP1 | Deletion | 0 | Clear |
| Coat Color Dilution and Neurological Defects (Discovered in the Miniature Dachshund) | MYO5A | Insertion | 0 | Clear |
| Collie Eye Anomaly (CEA) | NHEJ1 | Deletion | 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 Cornification (Discovered in the Labrador Retriever) | NSDHL | Deletion | 0 | Clear |
| Congenital Dyshormonogenic Hypothyroidism with Goiter (Discovered in the Shih Tzu) | SLC5A5 | G>A | 0 | Clear |
| Congenital Eye Malformations (Discovered in the Golden Retriever) | SIX6 | C>T | 0 | Clear |
| Congenital Hypothyroidism (Discovered in the Tenterfield Terrier) | TPO | C>T | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| Congenital Hypothyroidism (Discovered in the Toy Fox and Rat Terrier) | TPO | C>T | 0 | Clear |
| Congenital Muscular Dystrophy (Discovered in the Italian Greyhound) | LAMA2 | G>A | 0 | Clear |
| Congenital Muscular Dystrophy (Discovered in the Staffordshire Bull Terrier) | LAMA2 | Deletion | 0 | Clear |
| Congenital Myasthenic Syndrome (Discovered in the Golden Retriever) | COLQ | G>A | 0 | Clear |
| Congenital Myasthenic Syndrome (Discovered in the Heideterrier) | CHRNE | Insertion | 0 | Clear |
| 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 |
| Craniomandibular Osteopathy (Discovered in the Australian Terrier) | COL1A1 | C>T | 0 | Clear |
| Craniomandibular Osteopathy (Discovered in the Basset Hound) | SLC37A2 | C>T | 0 | Clear |
| Craniomandibular Osteopathy (Discovered in the Weimaraner) | SLC35D1 | Deletion | 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 |
| Darier Disease (Discovered in the Irish Terrier) | ATP2A2 | Insertion | 0 | Clear |
| Deafness and Vestibular Dysfunction (DINGS1), (Discovered in Doberman Pinscher) | PTPRQ | Insertion | 0 | Clear |
| Deafness and Vestibular Dysfunction (DINGS2), (Discovered in Doberman Pinscher) | MYO7A | G>A | 0 | Clear |
| Degenerative Myelopathy | SOD1 | G>A | 0 | Clear |
| Demyelinating Neuropathy | SBF2 | G>T | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| Dental Hypomineralization | FAM20C | C>T | 0 | Clear |
| Dental-Skeletal-Retinal Anomaly (Discovered in the Cane Corso) | MIA3 | I>S | 0 | Clear |
| Dilated Cardiomyopathy (Discovered in the Schnauzer) | RBM20 | Deletion | 0 | Clear |
| Disproportionate Dwarfism (Discovered in the Dogo Argentino) | PRKG2 | C>A | 0 | Clear |
| Dominant Progressive Retinal Atrophy | RHO | C>G | 0 | Clear |
| Dystrophic Epidermolysis Bullosa (Discovered in the Basset Hound) | COL7A1 | Insertion | 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 Adult Onset Deafness For Border Collies only (Linkage test) | Intergenic | Insertion | 0 | Clear |
| Early Retinal Degeneration (Discovered in the Norwegian Elkhound) | STK38L | Insertion | 0 | Clear |
| Early-Onset Adult Deafness (Discovered in the Rhodesian Ridgeback) | EPS8L2 | Deletion | 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 |
| Early-Onset Progressive Retinal Atrophy, (Discovered in the Spanish Water Dog) | PDE6B | Deletion | 0 | Clear |
| Ehlers-Danlos Syndrome (Discovered in mixed breed) | COL5A1 | G>A | 0 | Clear |
| Ehlers-Danlos Syndrome (Discovered in the Labrador Retriever) | COL5A1 | Deletion | 0 | Clear |
| Epidermolytic Hyperkeratosis | KRT10 | G>T | 0 | Clear |
| Episodic Falling Syndrome | BCAN | Insertion | 0 | Clear |
| Exercise-Induced Collapse | DNM1 | G>T | 0 | Clear |
| Factor VII Deficiency | F7 | G>A | 0 | Clear |
| Factor XI Deficiency | FXI | Insertion | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| Familial Nephropathy (Discovered in the English Cocker Spaniel) | COL4A4 | A>T | 0 | Clear |
| Familial Nephropathy (Discovered in the English Springer Spaniel) | COL4A4 | C>T | 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 German Pinscher) | G6PC | Insertion | 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 |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| Hemophilia A (Discovered in the Labrador Retriever) | Confidential | — | 0 | Clear |
| 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 Belgian Malinois) | SLC12A6 | Insertion | 0 | Clear |
| Hereditary Ataxia (Discovered in the Norwegian Buhund) | KCNIP4 | T>C | 0 | Clear |
| Hereditary Calcium Oxalate Urolithiasis, Type 1 | Confidential | — | 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 |
| Ichthyosis Type 2 (Discovered in the Golden Retriever) | ABHD5 | Deletion | 0 | Clear |
| Inflammatory Myopathy (Discovered in the Dutch Shepherd Dog) | SLC25A12 | A>G | 0 | Clear |
| Inflammatory Pulmonary Disease (Discovered in the Rough Collie) | AKNA | Deletion | 0 | Clear |
| Intestinal Cobalamin Malabsorption (Discovered in the Beagle) | CUBN | Deletion | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| Intestinal Cobalamin Malabsorption (Discovered in the Border Collie) | CUBN | Deletion | 0 | Clear |
| Intestinal Cobalamin Malabsorption (Discovered in the Komondor) | CUBN | G>A | 0 | Clear |
| Intestinal Lipid Malabsorption (Discovered in the Australian Kelpie) | ACSL5 | Deletion | 0 | Clear |
| Junctional Epidermolysis Bullosa (Discovered in the Australian Cattle Dog Mix) | LAMA3 | T>A | 0 | Clear |
| Junctional Epidermolysis Bullosa (Discovered in the Australian Shepherd) | LAMB3 | A>G | 0 | Clear |
| Juvenile Cataract (Discovered in the Wirehaired Pointing Griffon) | FYCO1 | Deletion | 0 | Clear |
| Juvenile Dilated Cardiomyopathy (Discovered in the Toy Manchester Terrier) | Confidential | — | 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 |
| Lafora Disease (Linkage test) | NHLRC1 | Insertion | 0 | Clear |
| Lagotto Storage Disease | ATG4D | G>A | 0 | Clear |
| Lamellar Ichthyosis | TGM1 | Insertion | 0 | Clear |
| Laryngeal Paralysis (Discovered in the Bull Terrier and Miniature Bull Terrier) | RAPGEF6 | Insertion | 0 | Clear |
| Leigh-like Subacute Necrotizing Encephalopathy (Discovered in the Yorkshire Terrier) | SLC19A3 | Insertion | 0 | Clear |
| Lethal Acrodermatitis (Discovered in the Bull Terrier) | MKLN1 | A>C | 0 | Clear |
| Leukodystrophy (Discovered in the Standard Schnauzer) | TSEN54 | C>T | 0 | Clear |
| Ligneous Membranitis | PLG | T>A | 0 | Clear |
| Limb-girdle Muscular Dystrophy (Discovered in the Boston Terrier) | SGCD | — | 0 | Clear |
| Limb-girdle Muscular Dystrophy, Type L3 (Discovered in the Miniature Dachshund) | SGCA | G>A | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| 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 |
| MDR1 Medication Sensitivity | MDR1/ABCB1 | Deletion | 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 |
| Mucopolysaccharidosis VI (Discovered in the Miniature Pinscher) | ARSB | 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 Dystrophy-Dystroglycanopathy (Discovered in the Labrador Retriever) | LARGE | C>T | 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 |
| Myotubular Myopathy | MTM1 | A>C | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| Narcolepsy (Discovered in the Dachshund) | HCRTR2 | G>A | 0 | Clear |
| Narcolepsy (Discovered in the Labrador Retriever) | HCRTR2 | 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 5 (Discovered in the Border Collie) | CLN5 | C>T | 0 | Clear |
| Neuronal Ceroid Lipofuscinosis 5 (Discovered in the Golden Retriever) | CLN5 | — | 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 |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| P2RY12-associated Bleeding Disorder | P2RY12 | Deletion | 0 | Clear |
| Palmoplantar Hyperkeratosis (Discovered in the Rottweiler) | DSG1 | Deletion | 0 | Clear |
| Paroxysmal Dyskinesia | PIGN | C>T | 0 | Clear |
| Persistent Müllerian Duct Syndrome | AMHR2 | C>T | 0 | Clear |
| Phosphofructokinase Deficiency | PFKM | G>A | 0 | Clear |
| Pituitary Dwarfism (Discovered in the Karelian Bear Dog) | POU1F1 | C>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-PRA 2 variant) | TTC8 | Deletion | 0 | Clear |
| Progressive Retinal Atrophy (Discovered in the Golden Retriever - GR-PRA1 variant) | SLC4A3 | Insertion | 0 | Clear |
| Progressive Retinal Atrophy (Discovered in the Lapponian Herder) | IFT122 | C>T | 0 | Clear |
| Progressive Retinal Atrophy (Discovered in the Lhasa Apso) | Confidential | — | 0 | Clear |
| Progressive Retinal Atrophy (Discovered in the Miniature Long Haired Dachshund) | RPGRIP1 | Insertion | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| 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 |
| 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 |
| Sensorineural Deafness (Discovered in the Rottweiler) | LOXHD1 | G>C | 0 | Clear |
| Sensory Ataxic Neuropathy | tRNATyr | Deletion | 0 | Clear |
| Sensory Neuropathy | FAM134B | Insertion | 0 | Clear |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| 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 |
| Stargardt Disease (Discovered in the Labrador Retriever) | ABCA4 | Insertion | 0 | Clear |
| Startle Disease (Discovered in Irish Wolfhounds) | SLC6A5 | G>T | 0 | Clear |
| Startle Disease (Discovered in the Miniature American Shepherd) | Confidential | — | 0 | Clear |
| Succinic Semialdehyde Dehydrogenase Deficiency (Discovered in the Saluki) | ALDH5A1 | G>A | 0 | Clear |
| Thrombopathia (Discovered in the Basset Hound) | RASGRP1 | Deletion | 0 | Clear |
| Thrombopathia (Discovered in the Eskimo Spitz) | RASGRP1 | — | 0 | Clear |
| Trapped Neutrophil Syndrome | VPS13B | Deletion | 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 |

## Health Conditions Tested (continued)

| Genetic Condition | Gene | Risk Variant | Copies | Result |
|---|---|---|---|---|
| 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 |

## Coat Color

| Genetic Trait | Gene | Variant | Copies | Result |
|---|---|---|---|---|
| Fawn | ASIP | $a^y$ | 1 | **Fawn possible** |
| Recessive Black | ASIP | a | 0 | No effect |
| Tan Points | ASIP | $a^t$ | 1 | **Tan points possible** |
| Dominant Black | CBD103 | $K^B$ | 0 | No effect |
| Sable (Discovered in the Cocker Spaniel) | Confidential | — | 0 | No effect |
| Mask | MC1R | $E^m$ | 0 | No effect |
| Recessive Red (e1) | MC1R | $e^1$ | 0 | No effect |
| Recessive Red (e2) | MC1R | $e^2$ | 0 | No effect |
| Recessive Red (e3) | MC1R | $e^3$ | 0 | No effect |
| Widow's Peak (Discovered in Ancient dogs) | MC1R | $e^A$ | 0 | No effect |
| Widow's Peak (Discovered in the Afghan Hound and Saluki) | MC1R | $E^G$ | 0 | No effect |

## Color Modification

| Genetic Trait | Gene | Variant | Copies | Result |
|---|---|---|---|---|
| Cocoa (Discovered in the French Bulldog) | HPS3 | co | 0 | No effect |
| Red Intensity | MFSD12 | i | 0 | No effect |
| Dilution (d1) Linkage test | MLPH | $d^1$ | 0 | No effect |
| Dilution (d2) | MLPH | $d^2$ | 0 | No effect |
| Dilution (d3) | MLPH | $d^3$ | 0 | No effect |
| Chocolate (basd) | TYRP1 | $b^{asd}$ | 0 | No effect |
| Chocolate (bc) | TYRP1 | $b^c$ | 0 | No effect |
| Chocolate (bd) | TYRP1 | $b^d$ | 0 | No effect |

## Color Modification (continued)

| Genetic Trait | Gene | Variant | Copies | Result |
|---|---|---|---|---|
| Chocolate (be) | TYRP1 | $b^{e}$ | 0 | No effect |
| Chocolate (bh) | TYRP1 | $b^{h}$ | 0 | No effect |
| Chocolate (bs) | TYRP1 | $b^{s}$ | 0 | No effect |

## Coat Patterns

| Genetic Trait | Gene | Variant | Copies | Result |
|---|---|---|---|---|
| Piebald | MITF | $s^{p}$ | 0 | No effect |
| Merle | PMEL | M | 0 | No effect |
| Harlequin | PSMB7 | H | 0 | No effect |
| Saddle Tan | RALY | - | **1** | **Saddle possible** |
| Roan (Linkage test) | USH2A | **$T^{r}$** | **1** | **Roan possible** |

## Coat Length and Curl

| Genetic Trait | Gene | Variant | Copies | Result |
|---|---|---|---|---|
| Long Hair (lh1) | FGF5 | **$lh^{1}$** | **1** | **Short coat likely, long coat possible** |
| Long Hair (lh2) | FGF5 | $lh^{2}$ | 0 | No effect |
| Long Hair (lh3) | FGF5 | $lh^{3}$ | 0 | No effect |
| Long Hair (lh4) | FGF5 | $lh^{4}$ | 0 | No effect |
| Long Hair (lh5) | FGF5 | $lh^{5}$ | 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 | $Hr^{cc}$ | 0 | No effect |

## Hairlessness (continued)

| Genetic Trait | Gene | Variant | Copies | Result |
|---|---|---|---|---|
| Hairlessness (Discovered in the American Hairless Terrier) | SGK3 | $hr^{aht}$ | 0 | No effect |
| Hairlessness (Discovered in the Scottish Deerhound) | SKG3 | $hr^{sd}$ | 0 | No effect |

## Shedding

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

## More Coat Traits

| Genetic Trait | Gene | Variant | Copies | Result |
|---|---|---|---|---|
| Hair Ridge | FGF3, FGF4, FGF19, ORAOV1 | R | 0 | No effect |
| Furnishings | RSPO2 | F | 0 | No effect |
| Albino | SLC45A2 | $c^{al}$ | 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 |

## 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 Legs (Chondrodystrophy, CDDY) | FGF4 | - | 0 | No effect |
| Short Tail | T-box | T | 0 | Full tail length likely |

DNA Profile Certificate:
ISAG 2020 Canine SNP Profile

# OSD Offspring

| Call name | Date of birth | Genetic sex | Sample ID |
|---|---|---|---|
| OSD Offspring | 2022-05-06 | Female | DSPRBRR |




Rebecca Foran, PhD
**Head of R&D**

Wisdom Panel performed testing on the dog listed on this certificate. The results included in this report relate only to the items tested using the sample provided. These tests were developed and their performance determined by Wisdom Panel. This Laboratory has established and verified the test's accuracy and precision with >99.9% sensitivity and specificity. This is not a breed identification test. Because this test is a DNA-based method, rare genomic variations may occur producing false results.

If you think these results are in the error, please contact breeder@wisdompanel.com immediately for further evaluation. In the event of a valid dispute of results, Wisdom Panel will do its best to resolve such a claim to the customer's satisfaction. If not resolution is possible after investigation by Wisdom Panel with the cooperation of the customer, the extent of the customer's solde remedy is a refund of the fee paid. In no event shall Wisdom Panel be liable for indirect, consequential or incidental damages of any kind. Any claim must be asserted within 60 days of the report of the test results.

# OSD Offspring

| Call name | Date of birth | Genetic sex |
|---|---|---|
| OSD Offspring | 2022-05-06 | Female |

**SNP - ISAG 2020 Panel 1**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **1** | Cfam_1:3962719 | G/G | **39** | Cfam_11:23907101 | A/C | **77** | Cfam_25:2073511 | A/A |
| **2** | Cfam_1:20842130 | A/G | **40** | Cfam_11:65603333 | A/A | **78** | Cfam_25:33986348 | A/A |
| **3** | Cfam_1:70238933 | A/G | **41** | Cfam_12:5579055 | G/G | **79** | Cfam_25:47708600 | A/A |
| **4** | Cfam_1:80971770 | A/A | **42** | Cfam_12:35306641 | G/G | **80** | Cfam_26:20004896 | A/A |
| **5** | Cfam_1:106430955 | A/A | **43** | Cfam_12:55201839 | A/A | **81** | Cfam_26:35071515 | G/G |
| **6** | Cfam_1:119414584 | G/G | **44** | Cfam_12:68125319 | A/G | **82** | Cfam_27:2619058 | A/A |
| **7** | Cfam_2:2610859 | G/G | **45** | Cfam_13:8704192 | A/G | **83** | Cfam_27:22599860 | G/G |
| **8** | Cfam_2:38293797 | G/G | **46** | Cfam_13:59896033 | A/C | **84** | Cfam_27:41049333 | A/A |
| **9** | Cfam_2:77806065 | G/G | **47** | Cfam_14:50063321 | A/A | **85** | Cfam_28:9877730 | A/G |
| **10** | Cfam_3:1252765 | A/A | **48** | Cfam_14:58465266 | A/G | **86** | Cfam_28:18509221 | A/G |
| **11** | Cfam_3:24757939 | A/A | **49** | Cfam_15:19299365 | A/A | **87** | Cfam_28:38885325 | A/A |
| **12** | Cfam_3:73570828 | A/G | **50** | Cfam_15:22834903 | A/C | **88** | Cfam_29:251970 | G/G |
| **13** | Cfam_4:31301072 | G/G | **51** | Cfam_16:29634940 | G/G | **89** | Cfam_29:9625359 | A/G |
| **14** | Cfam_4:64121754 | G/G | **52** | Cfam_16:46884446 | C/C | **90** | Cfam_29:17561258 | G/G |
| **15** | Cfam_4:75910211 | A/A | **53** | Cfam_16:57958947 | A/A | **91** | Cfam_29:36319325 | C/C |
| **16** | Cfam_4:86049027 | A/G | **54** | Cfam_17:10649078 | G/G | **92** | Cfam_30:3896482 | A/G |
| **17** | Cfam_5:5410890 | A/A | **55** | Cfam_17:34462308 | G/G | **93** | Cfam_30:15542105 | A/A |
| **18** | Cfam_5:26320165 | A/A | **56** | Cfam_17:39124697 | A/A | **94** | Cfam_30:32852404 | A/A |
| **19** | Cfam_5:85451804 | G/G | **57** | Cfam_18:6745949 | A/A | **95** | Cfam_31:21068798 | G/G |
| **20** | Cfam_6:11553458 | G/G | **58** | Cfam_18:54361347 | A/G | **96** | Cfam_31:39391935 | A/G |
| **21** | Cfam_6:33976751 | G/G | **59** | Cfam_19:841347 | A/G | **97** | Cfam_32:679380 | G/G |
| **22** | Cfam_6:64006720 | A/G | **60** | Cfam_19:15926130 | A/A | **98** | Cfam_32:17792284 | A/G |
| **23** | Cfam_7:76294 | G/G | **61** | Cfam_19:27288167 | C/C | **99** | Cfam_32:32382778 | G/G |
| **24** | Cfam_7:15011628 | A/A | **62** | Cfam_19:47470564 | C/C | **100** | Cfam_33:15018500 | G/G |
| **25** | Cfam_7:36555518 | A/G | **63** | Cfam_20:13740894 | G/G | **101** | Cfam_33:23742061 | A/G |
| **26** | Cfam_8:5291824 | A/G | **64** | Cfam_20:49900586 | A/G | **102** | Cfam_34:195313 | A/A |
| **27** | Cfam_8:18121580 | A/A | **65** | Cfam_20:57167714 | A/G | **103** | Cfam_34:24396298 | A/G |
| **28** | Cfam_8:45852939 | A/A | **66** | Cfam_21:15558670 | A/A | **104** | Cfam_35:15345329 | C/C |
| **29** | Cfam_8:63196958 | A/A | **67** | Cfam_21:25537675 | A/G | **105** | Cfam_36:3565500 | A/G |
| **30** | Cfam_9:22610227 | A/A | **68** | Cfam_21:35719434 | A/A | **106** | Cfam_36:12714421 | A/G |
| **31** | Cfam_9:40096141 | A/G | **69** | Cfam_22:641125 | A/G | **107** | Cfam_36:23459390 | A/G |
| **32** | Cfam_9:52710991 | A/G | **70** | Cfam_22:26694580 | G/G | **108** | Cfam_37:9398945 | A/G |
| **33** | Cfam_9:60437147 | A/G | **71** | Cfam_22:55308193 | C/C | **109** | Cfam_37:15436615 | A/G |
| **34** | Cfam_10:10652659 | A/G | **72** | Cfam_23:42886681 | A/A | **110** | Cfam_37:27667297 | G/G |
| **35** | Cfam_10:22409408 | A/G | **73** | Cfam_23:50772488 | A/A | **111** | Cfam_38:9224942 | A/C |
| **36** | Cfam_10:30034450 | A/G | **74** | Cfam_24:23393510 | A/A | **112** | Cfam_38:17657161 | G/G |
| **37** | Cfam_10:66922269 | A/A | **75** | Cfam_24:29909901 | G/G | **113** | Cfam_38:20441216 | G/G |
| **38** | Cfam_11:5318488 | A/A | **76** | Cfam_24:47381908 | A/A | | | |

## SNP - ISAG 2020 Panel 2

| | | |
|---|---|---|
| 1 | Cfam_1:72613047 | A/A |
| 2 | Cfam_1:74450772 | A/G |
| 3 | Cfam_1:119306331 | A/A |
| 4 | Cfam_3:10255068 | G/G |
| 5 | Cfam_3:37849557 | A/A |
| 6 | Cfam_3:43055696 | A/A |
| 7 | Cfam_3:43063677 | A/A |
| 8 | Cfam_3:64084413 | A/G |
| 9 | Cfam_3:90291255 | A/G |
| 10 | Cfam_3:91626907 | A/G |
| 11 | Cfam_4:42104780 | A/A |
| 12 | Cfam_4:67040898 | A/A |
| 13 | Cfam_4:70217695 | A/A |
| 14 | Cfam_5:13080303 | A/G |
| 15 | Cfam_5:36642434 | A/G |
| 16 | Cfam_5:44650576 | G/G |
| 17 | Cfam_5:55349573 | A/A |
| 18 | Cfam_5:64611038 | G/G |
| 19 | Cfam_7:3318809 | A/G |
| 20 | Cfam_7:6423299 | A/G |
| 21 | Cfam_7:15017979 | A/A |
| 22 | Cfam_7:76487265 | A/G |
| 23 | Cfam_8:6188937 | A/G |
| 24 | Cfam_8:19076567 | A/A |
| 25 | Cfam_8:24614720 | G/G |
| 26 | Cfam_8:52381322 | G/G |
| 27 | Cfam_8:67183794 | G/G |
| 28 | Cfam_9:20867959 | G/G |
| 29 | Cfam_9:32506288 | A/G |
| 30 | Cfam_9:50114927 | A/A |
| 31 | Cfam_9:56021221 | G/G |
| 32 | Cfam_10:8085469 | A/A |
| 33 | Cfam_10:14685262 | G/G |
| 34 | Cfam_10:39548483 | G/G |
| 35 | Cfam_10:47923623 | A/A |
| 36 | Cfam_10:57954366 | A/G |
| 37 | Cfam_11:1161870 | A/A |
| 38 | Cfam_11:62157625 | G/G |
| 39 | Cfam_11:70698603 | A/C |
| 40 | Cfam_12:6337286 | A/G |
| 41 | Cfam_12:8532712 | A/G |
| 42 | Cfam_12:23059939 | G/G |
| 43 | Cfam_12:40681020 | A/A |
| 44 | Cfam_12:70657733 | A/G |
| 45 | Cfam_13:40616856 | G/G |
| 46 | Cfam_14:55735620 | G/G |
| 47 | Cfam_16:29675662 | C/C |
| 48 | Cfam_16:58093031 | C/C |
| 49 | Cfam_17:9407683 | G/G |
| 50 | Cfam_17:12787849 | C/C |
| 51 | Cfam_17:57371669 | G/G |
| 52 | Cfam_18:10189759 | G/G |
| 53 | Cfam_18:16385020 | G/G |
| 54 | Cfam_18:16388978 | C/C |
| 55 | Cfam_18:31579269 | G/G |
| 56 | Cfam_18:47325586 | A/G |
| 57 | Cfam_19:30246414 | A/A |
| 58 | Cfam_19:40189405 | C/C |
| 59 | Cfam_19:42756283 | A/A |
| 60 | Cfam_20:6046176 | G/G |
| 61 | Cfam_20:45777531 | A/G |
| 62 | Cfam_20:48602465 | A/A |
| 63 | Cfam_21:22581321 | A/A |
| 64 | Cfam_21:29796784 | A/A |
| 65 | Cfam_21:31751817 | A/A |
| 66 | Cfam_22:20498421 | A/G |
| 67 | Cfam_22:33934047 | A/G |
| 68 | Cfam_22:37522364 | A/G |
| 69 | Cfam_22:39647748 | G/G |
| 70 | Cfam_22:61153661 | A/G |
| 71 | Cfam_23:44497217 | G/G |
| 72 | Cfam_23:48055836 | A/A |
| 73 | Cfam_24:18599997 | G/G |
| 74 | Cfam_24:27925354 | A/A |
| 75 | Cfam_24:30954773 | A/G |
| 76 | Cfam_24:43589304 | A/G |
| 77 | Cfam_24:45191477 | A/G |
| 78 | Cfam_25:4614777 | G/G |
| 79 | Cfam_27:20948372 | A/A |
| 80 | Cfam_27:34444177 | G/G |
| 81 | Cfam_27:42526114 | A/G |
| 82 | Cfam_28:9703418 | G/G |
| 83 | Cfam_28:12804225 | A/G |
| 84 | Cfam_28:34478533 | G/G |
| 85 | Cfam_28:35104850 | A/A |
| 86 | Cfam_29:4020192 | A/G |
| 87 | Cfam_29:4022252 | A/G |
| 88 | Cfam_29:19681270 | G/G |
| 89 | Cfam_29:22992304 | G/G |
| 90 | Cfam_30:10012939 | G/G |
| 91 | Cfam_30:11735245 | A/G |
| 92 | Cfam_30:27619023 | A/G |
| 93 | Cfam_31:20912553 | A/A |
| 94 | Cfam_32:13183511 | A/A |
| 95 | Cfam_33:15233992 | G/G |
| 96 | Cfam_33:22070526 | A/G |
| 97 | Cfam_33:22472901 | A/C |
| 98 | Cfam_33:22648231 | A/G |
| 99 | Cfam_34:24351570 | A/G |
| 100 | Cfam_34:34993916 | A/A |
| 101 | Cfam_34:37323213 | G/G |
| 102 | Cfam_34:41703614 | A/A |
| 103 | Cfam_35:15283717 | G/G |
| 104 | Cfam_36:288045 | A/A |
| 105 | Cfam_36:9241262 | A/G |
| 106 | Cfam_36:10084888 | A/G |
| 107 | Cfam_36:12723744 | A/C |
| 108 | Cfam_36:18627936 | A/A |
| 109 | Cfam_37:18338930 | C/C |
| 110 | Cfam_37:26611359 | A/A |
| 111 | Cfam_37:28611801 | A/A |
| 112 | Cfam_37:30110473 | A/A |
| 113 | Cfam_37:30902202 | G/G |
| 114 | Cfam_38:13098194 | C/C |
| 115 | Cfam_38:15271384 | A/G |
| 116 | Cfam_38:19172567 | C/C |
| 117 | Cfam_38:20930997 | A/A |
| SEX | Cfam_x:7828353 | X/Y |

WISDOM PANEL™

Sample ID: DSPRBRR
ISAG 2020 Canine SNP Profile

Parentage Certificate

# OSD Offspring

Parentage analysis

## Qualifies as the offspring of the sire in the absence of the dam's result

**Sire:** MDD Sire

| Call name | Date of birth | Sample ID | Genetic sex |
|---|---|---|---|
| OSD Offspring | 2022-05-06 | DSPRBRR | Female |

**Breeder**
Lobby Lob

**Owner**
Bobby Bob




Rebecca Foran, PhD
**Head of R&D**

Wisdom Panel performed testing on the dog listed on this certificate. The results included in this report relate only to the items tested using the sample provided. These tests were developed and their performance determined by Wisdom Panel. This Laboratory has established and verified the test's accuracy and precision with >99.9% sensitivity and specificity. This is not a breed identification test. Because this test is a DNA-based method, rare genomic variations may occur producing false results.

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