

**Donner et al. 2023, Genetic prevalence and clinical relevance of canine Mendelian disease variants in over one million dogs**

| <b>Genetic diseases</b>                                                                                        | <b>Heritability</b> |
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| 2,8-dihydroxyadenine (DHA) Urolithiasis                                                                        | Autosomal Recessive |
| Acral Mutilation Syndrome (AMS)                                                                                | Autosomal Recessive |
| Acute Respiratory Distress Syndrome (Discovered in the Dalmatian; ARDS)                                        | Autosomal Recessive |
| Alaskan Husky Encephalopathy (AHE), Subacute Necrotising Encephalopathy                                        | Autosomal Recessive |
| Alexander Disease (Discovered in the Labrador Retriever)                                                       | Autosomal Recessive |
| Amelogenesis Imperfecta (Discovered in the Italian Greyhound; AI)                                              | Autosomal Recessive |
| Amelogenesis Imperfecta (Discovered in the Parson Russell Terrier; AI)                                         | Autosomal Recessive |
| Autosomal Recessive Severe Combined Immunodeficiency (ARSCID)                                                  | Autosomal Recessive |
| Bald Thigh Syndrome (Discovered in Sighthounds)                                                                | Autosomal Recessive |
| Bandera's Neonatal Ataxia (BNAt)                                                                               | Autosomal Recessive |
| Bardet-Biedl syndrome 2 or Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog; BBS2-PRA)         | Autosomal Recessive |
| Benign Familial Juvenile Epilepsy (Discovered in the Lagotto Romagnolo; BFJE)                                  | Autosomal Recessive |
| Bernard-Soulier Syndrome (Discovered in the Cocker Spaniel)                                                    | Autosomal Recessive |
| Bleeding disorder (Discovered in the Greater Swiss Mountain Dog; <i>P2RY12</i> -related)                       | Autosomal Recessive |
| Canine Leukocyte Adhesion Deficiency (CLAD), Type III                                                          | Autosomal Recessive |
| Canine Multifocal Retinopathy 1 (Discovered in Mastiff-related breeds; CMR1)                                   | Autosomal Recessive |
| Canine Multifocal Retinopathy 2 (Discovered in the Coton de Tulear; CMR2)                                      | Autosomal Recessive |
| Canine Multifocal Retinopathy 3 (Discovered in the Lapponian Herder; CMR3)                                     | Autosomal Recessive |
| Canine Multiple Systems Degeneration (Discovered in the Chinese Crested Dog; CMSD)                             | Autosomal Recessive |
| Canine Scott Syndrome (CSS)                                                                                    | Autosomal Recessive |
| Centronuclear Myopathy (Discovered in the Great Dane; <i>BIN1</i> -related; CNM)                               | Autosomal Recessive |
| Centronuclear Myopathy (Discovered in the Labrador Retriever; <i>HACD1</i> -related; CNM)                      | Autosomal Recessive |
| Cerebellar Ataxia (Discovered in the Old English Sheepdog and the Gordon Setter)                               | Autosomal Recessive |
| Cerebellar Cortical Degeneration (Discovered in the Vizsla; CCD)                                               | Autosomal Recessive |
| Cerebral Dysfunction (Discovered in the Friesian Stabyhoun)                                                    | Autosomal Recessive |
| Chondrodysplasia, Disproportionate Short-limbed (Discovered in the Norwegian Elkhound; <i>ITGA10</i> -related) | Autosomal Recessive |
| Chondrodystrophy and Intervertebral Disc Disease Risk (CDDY)                                                   | Autosomal Dominant  |
| Cleft Lip with/without Palate and Syndactyly ( <i>ADAMTS20</i> -related)                                       | Autosomal Recessive |

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| Cleft Palate ( <i>DLX6</i> -related)                                                                | Autosomal Recessive                         |
| Collie Eye Anomaly (CEA)                                                                            | Autosomal Recessive                         |
| Complement 3 (C3) Deficiency                                                                        | Autosomal Recessive                         |
| Cone Degeneration (Discovered in the Alaskan Malamute)                                              | Autosomal Recessive                         |
| Cone Degeneration (Discovered in the German Shepherd Dog; <i>CNGA3</i> -related)                    | Autosomal Recessive                         |
| Cone Degeneration (Discovered in the German Shorthaired Pointer; <i>CNGB3</i> -related)             | Autosomal Recessive                         |
| Cone-Rod Dystrophy (cord1-PRA/crd4)                                                                 | Autosomal Recessive (Incomplete Penetrance) |
| Cone-Rod Dystrophy (Discovered in the Standard Wirehaired Dachshund; crd SWD)                       | Autosomal Recessive                         |
| Cone-Rod Dystrophy 1 (Discovered in the American Staffordshire Terrier; crd1)                       | Autosomal Recessive                         |
| Cone-Rod Dystrophy 2 (Discovered in the Pit Bull Terrier; crd2)                                     | Autosomal Recessive                         |
| Congenital Cornification Disorder (Discovered in the Chihuahua)                                     | X-linked Semi-Dominant                      |
| Congenital Dyshormonogenic Hypothyroidism with Goiter (Discovered in the Shih Tzu)                  | Autosomal Recessive                         |
| Congenital Eye Malformation (Discovered in the Golden Retriever)                                    | Autosomal Dominant (Incomplete Penetrance)  |
| Congenital Hypothyroidism (Discovered in the Tenterfield Terrier)                                   | Autosomal Recessive                         |
| Congenital Hypothyroidism (Discovered in the Toy Fox and Rat Terrier)                               | Autosomal Recessive                         |
| Congenital Myasthenic Syndrome (Discovered in the Golden Retriever; <i>COLQ</i> -related)           | Autosomal Recessive                         |
| Congenital Myasthenic Syndrome (Discovered in the Heideterrier; <i>CHRNE</i> -related; CMS)         | Autosomal Recessive                         |
| Congenital Myasthenic Syndrome (Discovered in the Jack Russell Terrier; <i>CHRNE</i> -related; CMS) | Autosomal Recessive                         |
| Congenital Myasthenic Syndrome (Discovered in the Labrador Retriever)                               | Autosomal Recessive                         |
| Congenital Myasthenic Syndrome (Discovered in the Old Danish Pointer; CMS)                          | Autosomal Recessive                         |
| Congenital Stationary Night Blindness (Discovered in the the Briard; CSNB)                          | Autosomal Recessive                         |
| Cranio-mandibular Osteopathy (Discovered in the Cairn, Scottish and West Highland White Terrier)    | Autosomal Dominant (Incomplete Penetrance)  |
| Cranio-mandibular Osteopathy (Discovered in the Weimaraner; CMO)                                    | Autosomal Dominant                          |
| Cystic Renal Dysplasia and Hepatic Fibrosis (Discovered in the Norwich Terrier)                     | Autosomal Recessive                         |
| Cystinuria Type I-A (Discovered in the Newfoundland Dog)                                            | Autosomal Recessive                         |
| Cystinuria Type I-A ( <i>SLC3A1</i> p.I192V)                                                        | Autosomal Recessive (Incomplete Penetrance) |
| Cystinuria Type I-A ( <i>SLC3A1</i> p.S698G)                                                        | Autosomal Recessive (Incomplete Penetrance) |
| Cystinuria Type I-B ( <i>SLC7A9</i> p.A217T)                                                        | Autosomal Recessive (Incomplete Penetrance) |
| Cystinuria Type II-A (Discovered in the Australian Cattle Dog)                                      | Autosomal Dominant                          |
| Cystinuria Type II-B (Discovered in the Miniature Pinscher)                                         | Autosomal Dominant                          |

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| Dandy-Walker-Like Malformation (Discovered in the Eurasier; DWLM)                                | Autosomal Recessive                         |
| Deafness and Vestibular Dysfunction (Discovered in the Doberman Pinscher; <i>PTPRQ</i> -related) | Autosomal Recessive                         |
| Deafness and Vestibular Dysfunction (Discovered in the Doberman Pinscher)                        | Autosomal Recessive                         |
| Degenerative Myelopathy (DM)                                                                     | Autosomal Recessive (Incomplete Penetrance) |
| Demyelinating Polyneuropathy (Discovered in the Miniature Schnauzer; <i>SBF2</i> -related)       | Autosomal Recessive                         |
| Dental Hypomineralisation (Discovered in the Border Collie)                                      | Autosomal Recessive                         |
| Dilated Cardiomyopathy (Discovered in the Schnauzer; DCM)                                        | Autosomal Recessive                         |
| Dilated Cardiomyopathy risk factor (Discovered in the Doberman Pinscher; <i>PDK4</i> -related)   | Autosomal Dominant (Incomplete Penetrance)  |
| Dilated Cardiomyopathy risk factor (Discovered in the Doberman Pinscher; <i>TTN</i> -related)    | Autosomal Dominant (Incomplete Penetrance)  |
| Dominant Progressive Retinal Atrophy (DPRA)                                                      | Autosomal Dominant                          |
| Dystrophic Epidermolysis Bullosa (Discovered in the Central Asian Ovcharka)                      | Autosomal Recessive                         |
| Dystrophic Epidermolysis Bullosa (Discovered in the Golden Retriever)                            | Autosomal Recessive                         |
| Early Retinal Degeneration (Discovered in the Norwegian Elkhound; erd)                           | Autosomal Recessive                         |
| Early-onset PRA (Discovered in the Portuguese Water Dog; EOPRA)                                  | Autosomal Recessive                         |
| Early-Onset Progressive Polyneuropathy (Discovered in the Alaskan Malamute)                      | Autosomal Recessive                         |
| Early-Onset Progressive Polyneuropathy (Discovered in the Greyhound)                             | Autosomal Recessive                         |
| Ehlers-Danlos Syndrome (Discovered in the Chihuahua and Poodle)                                  | Autosomal Recessive                         |
| Epidermolytic Hyperkeratosis (Discovered in the Norfolk Terrier)                                 | Autosomal Recessive                         |
| Episodic Falling (EF)                                                                            | Autosomal Recessive                         |
| Exercise-Induced Collapse (EIC)                                                                  | Autosomal Recessive (Incomplete Penetrance) |
| Factor VII Deficiency                                                                            | Autosomal Recessive                         |
| Factor XI Deficiency                                                                             | Autosomal Dominant                          |
| Familial Nephropathy (Discovered in the English Cocker Spaniel; FN)                              | Autosomal Recessive                         |
| Familial Nephropathy (Discovered in the English Springer Spaniel; FN)                            | Autosomal Recessive                         |
| Fanconi Syndrome                                                                                 | Autosomal Recessive                         |
| Fetal Onset Neuroaxonal Dystrophy (FNAD)                                                         | Autosomal Recessive                         |
| Focal Non-Epidermolytic Palmoplantar Keratoderma (Discovered in the Dogue de Bordeaux)           | Autosomal Recessive                         |
| Glanzmann Thrombasthenia, Type I (Discovered in mixed breed dogs)                                | Autosomal Recessive                         |
| Glanzmann Thrombasthenia, Type I (Discovered in the Great Pyrenees)                              | Autosomal Recessive                         |
| Globoid Cell Leukodystrophy (Discovered in Terriers)                                             | Autosomal Recessive                         |

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| Globoid Cell Leukodystrophy (Discovered in the Irish Setter)                           | Autosomal Recessive |
| Glycogen storage disease VII (GSD VII) or Phosphofructokinase (PFK) Deficiency         | Autosomal Recessive |
| Glycogen Storage Disease, Type Ia (GSD Ia)                                             | Autosomal Recessive |
| Glycogen Storage Disease, Type IIIa (GSD IIIa)                                         | Autosomal Recessive |
| GM1 Gangliosidosis (Discovered in the Alaskan Husky)                                   | Autosomal Recessive |
| GM1 Gangliosidosis (Discovered in the Portuguese Water Dog)                            | Autosomal Recessive |
| GM1 Gangliosidosis (Discovered in the Shiba)                                           | Autosomal Recessive |
| GM2 Gangliosidosis (Discovered in the Japanese Chin)                                   | Autosomal Recessive |
| GM2 Gangliosidosis (Discovered in the Toy Poodle)                                      | Autosomal Recessive |
| Hemophilia A (Discovered in the Boxer)                                                 | X-linked Recessive  |
| Hemophilia A (Discovered in the German Shepherd Dog; <i>F8</i> p.C548Y)                | X-linked Recessive  |
| Hemophilia A (Discovered in the German Shepherd Dog; <i>F8</i> p.W33*)                 | X-linked Recessive  |
| Hemophilia A (Discovered in the Havanese)                                              | X-linked Recessive  |
| Hemophilia A (Discovered in the Old English Sheepdog)                                  | X-linked Recessive  |
| Hemophilia B (Discovered in the Airedale Terrier)                                      | X-linked Recessive  |
| Hemophilia B (Discovered in the Cairn Terrier)                                         | X-linked Recessive  |
| Hemophilia B (Discovered in the Lhasa Apso)                                            | X-linked Recessive  |
| Hemophilia B (Discovered in the Rhodesian Ridgeback)                                   | X-linked Recessive  |
| Hereditary Ataxia (Discovered in the Norwegian Buhund; <i>KCNIP4</i> -related)         | Autosomal Recessive |
| Hereditary Ataxia (Discovered the in Belgian Malinois; <i>SLC12A6</i> -related)        | Autosomal Recessive |
| Hereditary Elliptocytosis                                                              | Autosomal Dominant  |
| Hereditary Footpad Hyperkeratosis (Discovered in the Irish Terrier and Kromfohrländer) | Autosomal Recessive |
| Hereditary Nasal Parakeratosis (Discovered in the Greyhound; HNPK)                     | Autosomal Recessive |
| Hereditary Nasal Parakeratosis (Discovered in the Labrador Retriever; HNPK)            | Autosomal Recessive |
| Hereditary Vitamin D-Resistant Rickets Type II                                         | Autosomal Recessive |
| Hyperuricosuria (HUU)                                                                  | Autosomal Recessive |
| Hypocatalasia                                                                          | Autosomal Recessive |
| Hypomyelination (Discovered in the Weimaraner)                                         | Autosomal Recessive |
| Hypophosphatasia (Discovered in the Karelian Bear Dog; <i>ALPL</i> -related)           | Autosomal Recessive |
| Ichthyosis (Discovered in the American Bulldog; <i>NIPAL4</i> -related)                | Autosomal Recessive |

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| Ichthyosis (Discovered in the Golden Retriever)                                            | Autosomal Recessive                        |
| Ichthyosis (Discovered in the Great Dane; <i>SLC27A4</i> -related)                         | Autosomal Recessive                        |
| Inflammatory Myopathy (Discovered in the Dutch Shepherd Dog; <i>SLC25A12</i> -related)     | Autosomal Recessive                        |
| Intestinal Cobalamin Malabsorption (Discovered in the Beagle; <i>CUBN</i> -related)        | Autosomal Recessive                        |
| Intestinal Cobalamin Malabsorption (Discovered in the Border Collie; <i>CUBN</i> -related) | Autosomal Recessive                        |
| Intestinal Cobalamin Malabsorption (Discovered in the Komondor; <i>CUBN</i> -related)      | Autosomal Recessive                        |
| Juvenile Encephalopathy (Discovered in the Parson Russell Terrier)                         | Autosomal Recessive                        |
| Juvenile Myoclonic Epilepsy (Discovered in the Rhodesian Ridgeback; JME)                   | Autosomal Recessive                        |
| L-2-Hydroxyglutaric Aciduria (Discovered in the Staffordshire Bull Terrier)                | Autosomal Recessive                        |
| L-2-Hydroxyglutaric Aciduria (Discovered in the West Highland White Terrier)               | Autosomal Recessive                        |
| Lagotto Storage Disease (LSD)                                                              | Autosomal Recessive                        |
| Lamellar Ichthyosis (LI)                                                                   | Autosomal Recessive                        |
| Leonberger Polyneuropathy, Type 2 (LPN2)                                                   | Autosomal Dominant (Incomplete Penetrance) |
| Lethal Acrodermatitis (Discovered in the Bull Terrier; LAD)                                | Autosomal Recessive                        |
| Ligneous Membranitis (Discovered in the Scottish Terrier)                                  | Autosomal Recessive                        |
| Limb-girdle Muscular Dystrophy, Type 2F (Discovered in the Boston Terrier)                 | Autosomal Recessive                        |
| Long QT Syndrome                                                                           | Autosomal Dominant                         |
| Lung Developmental Disease (Discovered in the Airedale Terrier)                            | Autosomal Recessive                        |
| Macrothrombocytopenia (Discovered in the Norfolk and Cairn Terrier)                        | Autosomal Recessive                        |
| May-Hegglin Anomaly (MHA)                                                                  | Autosomal Dominant                         |
| MDR1 (Multidrug Resistance 1) Medication Sensitivity                                       | Autosomal Dominant                         |
| Microphthalmia (Discovered in the Soft-Coated Wheaten Terrier)                             | Autosomal Recessive                        |
| Mucopolysaccharidosis, Type IIIA (Discovered in the Dachshund; MPS IIIA)                   | Autosomal Recessive                        |
| Mucopolysaccharidosis, Type IIIA (Discovered in the New Zealand Huntaway; MPS IIIA)        | Autosomal Recessive                        |
| Mucopolysaccharidosis, Type VII (Discovered in the Brazilian Terrier; MPS VII)             | Autosomal Recessive                        |
| Mucopolysaccharidosis, Type VII (Discovered in the German Shepherd Dog; MPS VII)           | Autosomal Recessive                        |
| Muscular Dystrophy (Discovered in the Cavalier King Charles Spaniel; CKCS-MD)              | X-linked Recessive                         |
| Muscular Dystrophy (Discovered in the Golden Retriever)                                    | X-linked Recessive                         |
| Muscular Dystrophy (Discovered in the Norfolk Terrier)                                     | X-linked Recessive                         |
| Muscular Dystrophy, Ullrich Type (Discovered in the Landseer)                              | Autosomal Recessive                        |

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| Muscular Hypertrophy (Double Muscling)                                                       | Autosomal Recessive |
| Musladin-Lueke syndrome (MLS)                                                                | Autosomal Recessive |
| Myeloperoxidase Deficiency (Discovered in the Italian Hound)                                 | Autosomal Recessive |
| Myotonia Congenita (Discovered in the Australian Cattle Dog)                                 | Autosomal Recessive |
| Myotonia Congenita (Discovered in the Labrador Retriever)                                    | Autosomal Recessive |
| Myotonia Congenita (Discovered in the Miniature Schnauzer)                                   | Autosomal Recessive |
| Myotubular Myopathy (Discovered in the Labrador Retriever)                                   | X-linked Recessive  |
| Myotubular Myopathy (Discovered in the Rottweiler)                                           | X-linked Recessive  |
| Narcolepsy (Discovered in Dachshunds)                                                        | Autosomal Recessive |
| Narcolepsy (Discovered in the Labrador Retriever)                                            | Autosomal Recessive |
| Nemaline Myopathy (Discovered in the American Bulldog; <i>NEB</i> -related)                  | Autosomal Recessive |
| Neonatal Cerebellar Cortical Degeneration ( <i>SPTBN2</i> -related; NCCD)                    | Autosomal Recessive |
| Neonatal Encephalopathy with Seizures (NEWS)                                                 | Autosomal Recessive |
| Neuroaxonal Dystrophy (Discovered in the Papillon; <i>PLA2G6</i> -related; NAD)              | Autosomal Recessive |
| Neuroaxonal Dystrophy (Discovered in the Rottweiler; <i>VPS11</i> -related)                  | Autosomal Recessive |
| Neuroaxonal Dystrophy (Discovered in the Spanish Water Dog; NAD)                             | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 1 (Discovered in the Dachshund; NCL1)                         | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 12 (Discovered in the Australian Cattle Dog)                  | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 4A (Discovered in the American Staffordshire Terrier; NCL4A)  | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 5 (Discovered in the Border Collie; NCL5)                     | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 7 (Discovered in the Chinese Crested Dog and Chihuahua; NCL7) | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Alpine Dachsbracke; NCL8)                | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Australian Shepherd; NCL8)               | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the English Setter; NCL8)                    | Autosomal Recessive |
| Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Saluki; NCL8)                            | Autosomal Recessive |
| Nonsyndromic hearing loss (Discovered in the Rottweiler)                                     | Autosomal Recessive |
| Oculoskeletal Dysplasia (OSD2)                                                               | Autosomal Recessive |
| Osteochondrodysplasia (Discovered in the Miniature Poodle)                                   | Autosomal Recessive |
| Osteochondromatosis (Discovered in the American Staffordshire Terrier)                       | Autosomal Recessive |
| Osteogenesis Imperfecta (Discovered in the Beagle; <i>COL1A2</i> -related; OI)               | Autosomal Dominant  |

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| Osteogenesis Imperfecta (Discovered in the Dachshund; OI)                                                          | Autosomal Recessive                         |
| Paroxysmal Dyskinesia (Discovered in the Irish Soft Coated Wheaten Terrier; <i>PIGN</i> -related; PxD)             | Autosomal Recessive                         |
| Persistent Müllerian Duct Syndrome (PMDS)                                                                          | Autosomal Recessive                         |
| Pituitary Dwarfism (Discovered in the Karelian Bear Dog; <i>POU1F1</i> -related)                                   | Autosomal Recessive                         |
| Pituitary-Dependent Hyperadrenocorticism (Discovered in Poodles)                                                   | Autosomal Dominant                          |
| Polycystic Kidney Disease (Discovered in the Bull Terrier)                                                         | Autosomal Dominant                          |
| Polyneuropathy with Ocular Abnormalities and Neuronal Vacuolation (Black Russian Terrier, Rottweiler; POANV)       | Autosomal Recessive                         |
| Prekallikrein Deficiency                                                                                           | Autosomal Recessive                         |
| Primary Ciliary Dyskinesia (Discovered in the Alaskan Malamute; <i>NME5</i> -related; PCD)                         | Autosomal Recessive                         |
| Primary Ciliary Dyskinesia (Discovered in the Old English Sheepdog; <i>CCDC39</i> -related PCD)                    | Autosomal Recessive                         |
| Primary Lens Luxation (PLL)                                                                                        | Autosomal Recessive                         |
| Primary Open Angle Glaucoma (Discovered in Basset Fauve de Bretagne; <i>ADAMTS17</i> -related; POAG)               | Autosomal Recessive                         |
| Primary Open Angle Glaucoma (Discovered in Petit Basset Griffon Vendéen; <i>ADAMTS17</i> -related; POAG)           | Autosomal Recessive                         |
| Primary Open Angle Glaucoma (Discovered in the Beagle; POAG)                                                       | Autosomal Recessive                         |
| Primary Open Angle Glaucoma and Lens Luxation (Discovered in the Chinese Shar-Pei)                                 | Autosomal Recessive                         |
| Progressive Early-Onset Cerebellar Ataxia (Discovered in the Finnish Hound; <i>SEL1L</i> -related)                 | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Basenji; <i>SAG</i> -related)                                       | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Giant Schnauzer; <i>NECAP1</i> -related)                            | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Golden Retriever; GR_PRA1)                                          | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Golden Retriever; GR_PRA2)                                          | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Lapponian Herder; IFT122-PRA)                                       | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Lhasa Apso; <i>IMPG2</i> -related PRA4)                             | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Papillon and Phalène; <i>CNGB1</i> -related; PAP1_PRA)              | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog; <i>CNGA1</i> -PRA)                               | Autosomal Recessive                         |
| Progressive Retinal Atrophy (Discovered in the Swedish Vallhund; <i>MERTK</i> -related)                            | Autosomal Recessive                         |
| Progressive Retinal Atrophy 1 (Discovered in the Italian Greyhound; IG-PRA1)                                       | Autosomal Recessive                         |
| Progressive Retinal Atrophy, Generalized (Discovered in the Schapendoes)                                           | Autosomal Recessive                         |
| Progressive Retinal Atrophy, Type III (Tibetan Spaniel and Tibetan Terrier; PRA type III; <i>FAM161A</i> -related) | Autosomal Recessive                         |
| Progressive Rod-Cone Degeneration (prcd-PRA)                                                                       | Autosomal Recessive                         |
| Protein Losing Nephropathy (PLN; <i>NPHS1</i> -related)                                                            | Autosomal Recessive (Incomplete Penetrance) |

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| Pyruvate Dehydrogenase Phosphatase 1 (PDP1) Deficiency                                                        | Autosomal Recessive                        |
| Pyruvate Kinase (PK) Deficiency (Discovered in the Basenji)                                                   | Autosomal Recessive                        |
| Pyruvate Kinase (PK) Deficiency (Discovered in the Beagle)                                                    | Autosomal Recessive                        |
| Pyruvate Kinase (PK) Deficiency (Discovered in the Pug)                                                       | Autosomal Recessive                        |
| Pyruvate Kinase (PK) Deficiency (Discovered in the West Highland White Terrier)                               | Autosomal Recessive                        |
| Recurrent Inflammatory Pulmonary Disease (Discovered in the Rough Collie)                                     | Autosomal Recessive                        |
| Renal Cystadenocarcinoma and Nodular Dermatofibrosis (RCND)                                                   | Autosomal Dominant                         |
| Rod-Cone Dysplasia 1 (Discovered in the Irish Setter; rcd1)                                                   | Autosomal Recessive                        |
| Rod-Cone Dysplasia 1a (Discovered in the Sloughi; rcd1a)                                                      | Autosomal Recessive                        |
| Rod-Cone Dysplasia 3 (Discovered in the Cardigan Welsh Corgi; rcd3)                                           | Autosomal Recessive                        |
| Sensory Neuropathy (Discovered in the Border Collie)                                                          | Autosomal Recessive                        |
| Severe Combined Immunodeficiency (Discovered in the Frisian Water Dog)                                        | Autosomal Recessive                        |
| Shaking Puppy Syndrome (Discovered in the Border Terrier)                                                     | Autosomal Recessive                        |
| Shar-Pei Autoinflammatory Disease (SPAID)                                                                     | Autosomal Dominant (Incomplete Penetrance) |
| Skeletal Dysplasia 2 (SD2)                                                                                    | Autosomal Recessive                        |
| Spinocerebellar Ataxia (Late-Onset Ataxia; <i>CAPN1</i> -related; SCA/LOA)                                    | Autosomal Recessive                        |
| Spinocerebellar Ataxia with Myokymia and/or Seizures ( <i>KCNJ10</i> -related; SCA)                           | Autosomal Recessive                        |
| Spondylocostal Dysostosis (Discovered in the Miniature Schnauzer)                                             | Autosomal Recessive                        |
| Spongy Degeneration with Cerebellar Ataxia (Discovered in Belgian Malinois; <i>KCNJ10</i> -related; SDCA1)    | Autosomal Recessive                        |
| Spongy Degeneration with Cerebellar Ataxia (Discovered in the Belgian Malinois; <i>ATP1B2</i> -related SDCA2) | Autosomal Recessive                        |
| Stargardt Disease (Discovered in the Labrador Retriever)                                                      | Autosomal Recessive                        |
| Thrombopathia (Discovered in the Basset Hound)                                                                | Autosomal Recessive                        |
| Thrombopathia (Discovered in the Eskimo Spitz)                                                                | Autosomal Recessive                        |
| Thrombopathia (Discovered in the Landseer)                                                                    | Autosomal Recessive                        |
| Trapped Neutrophil Syndrome (TNS)                                                                             | Autosomal Recessive                        |
| Van den Ende-Gupta Syndrome (VDEGS)                                                                           | Autosomal Recessive                        |
| Von Willebrand's Disease, Type 1 (vWD 1)                                                                      | Autosomal Recessive                        |
| Von Willebrand's Disease, Type 2 (vWD 2)                                                                      | Autosomal Recessive                        |
| Von Willebrand's Disease, Type 3 (Discovered in the Kooiker Hound)                                            | Autosomal Recessive                        |
| Von Willebrand's Disease, Type 3 (Discovered in the Scottish Terrier; vWD 3)                                  | Autosomal Recessive                        |

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| Von Willebrand's Disease, Type 3 (Discovered in the Shetland Sheepdog; vWD 3)             | Autosomal Recessive |
| X-Linked Ectodermal Dysplasia (XHED)                                                      | X-linked Recessive  |
| X-Linked Hereditary Nephropathy (Discovered in the Navasota Dog; XLHN)                    | X-linked Recessive  |
| X-Linked Hereditary Nephropathy (Discovered in the Samoyed; XLHN)                         | X-linked Recessive  |
| X-Linked Progressive Retinal Atrophy 1 (XLPR1)                                            | X-linked Recessive  |
| X-Linked Progressive Retinal Atrophy 2 (XLPR2; Type A PRA)                                | X-linked Recessive  |
| X-Linked Severe Combined Immunodeficiency (Discovered in the Basset Hound; XSCID)         | X-linked Recessive  |
| X-Linked Severe Combined Immunodeficiency (Discovered in the Cardigan Welsh Corgi; XSCID) | X-linked Recessive  |
| X-Linked Tremors (Discovered in the English Springer Spaniel)                             | X-linked Recessive  |
| Xanthinuria, Type 1 (Discovered in mixed breed dogs)                                      | Autosomal Recessive |
| Xanthinuria, Type II (Discovered in the Cavalier King Charles Spaniel)                    | Autosomal Recessive |
| Xanthinuria, Type II (Discovered in the Toy Manchester Terrier)                           | Autosomal Recessive |