Optimal Selection™

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BR11 837

Cash, Mixed breed

Nickname: Cash
Microchip: 933000320253600
Breed: Mixed breed
Gender: Male

Owner: Brooke Dent
Country: United States
Testing date: 2020/1/29

Test results - Known disorders in the breed - page 1

Disorder	Type	Mode of Inheritance	Result
2,8-Dihydroxyadenine (2,8-DHA) urolithiasis	Renal Disorders	Autosomal Recessive	Clear
Alaskan Husky Encephalopathy, (AHE)	Neurological Disorders	Autosomal Recessive	Clear
Amelogenesis Imperfecta, (AI); mutation originally found in Italian Greyhound	Other Disorders	Autosomal Recessive	Clear
Bleeding disorder due to P2RY12 defect	Blood Disorders	Autosomal Recessive	Clear
Canine Cyclic Neutropenia, Cyclic Hematopoiesis, Grey Collie Syndrome, (CN)	Blood Disorders	Autosomal Recessive	Clear
Canine Leukocyte Adhesion Deficiency (CLAD), type III	Blood Disorders	Autosomal Recessive	Clear
Centronuclear Myopathy, (CNM); mutation originally found in Labrador Retriever	Muscular Disorders	Autosomal Recessive	Clear
Chondrodysplasia; mutation originally found in Norwegian Elkhound and Karelian Bear Dog	Skeletal Disorders	Autosomal Recessive	Clear
Complement 3 (C3) Deficiency	Immunological Disorders	Autosomal Recessive	Clear

On behalf of Genoscoper Laboratories,

Jonas Donner

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Jonas Donner, PhD, Head of Research and Development
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Test results - Known disorders in the breed - page 2

Disorder	Type	Mode of Inheritance	Result
Cone Degeneration, (CD) or Achromatopsia; mutation originally found in Alaskan Malamute	Ocular Disorders	Autosomal Recessive	Clear
Cone-Rod Dystrophy 1, (crd1); mutation originally found in American Staffordshire Terrier	Ocular Disorders	Autosomal Recessive	Clear
Cone-Rod Dystrophy 2, (crd2); mutation originally found in American Pit Bull Terrier	Ocular Disorders	Autosomal Recessive	Clear
Congenital Hypothyroidism; mutation originally found in Toy Fox and Rat Terrier	Endocrine Disorders	Autosomal Recessive	Clear
Congenital Keratoconjunctivitis Sicca and Ichthyosiform Dermatosis, (CKCSID)	Other Disorders	Autosomal Recessive	Clear
Craniomandibular Osteopathy, (CMO); mutation associated with terrier breeds	Skeletal Disorders	Autosomal Dominant (Incomplete Penetrance)	Clear
Cystinuria Type II-A; mutation originally found in Australian Cattle Dog	Renal Disorders	Autosomal Dominant	Clear
Degenerative Myelopathy, (DM; SOD1A)	Neurological Disorders	Autosomal Recessive (Incomplete Penetrance)	Clear
Dominant Progressive Retinal Atrophy, (DPRA)	Ocular Disorders	Autosomal Dominant	Clear

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Test results - Known disorders in the breed - page 3

Disorder	Type	Mode of Inheritance	Result
Duchenne or Dystrophin Muscular Dystrophy, (DMD); mutation originally found in Golden Retriever	Muscular Disorders	X-linked Recessive	Clear
Early Retinal Degeneration, (erd); mutation originally found in Norwegian Elkhound	Ocular Disorders	Autosomal Recessive	Clear
Early-Onset Progressive Polyneuropathy; mutation originally found in Alaskan Malamute	Neurological Disorders	Autosomal Recessive	Clear
Episodic Falling Syndrome, (EFS)	Neuromuscular Disorders	Autosomal Recessive	Clear
Exercise-Induced Collapse, (EIC)	Neuromuscular Disorders	Autosomal Recessive (Incomplete Penetrance)	Clear
Factor VII Deficiency	Blood Disorders	Autosomal Recessive	Clear
Factor VIII Deficiency or Hemophilia A; p.Cys548Tyr mutation originally found in German Shepherd	Blood Disorders	X-linked Recessive	Clear
Fetal Onset Neuroaxonal Dystrophy, (FNAD)	Neurological Disorders	Autosomal Recessive	Clear
GM2 Gangliosidosis, mutation originally found in Japanese Chin	Neuromuscular Disorders	Autosomal Recessive	Clear

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Test results - Known disorders in the breed - page 4

Disorder	Type	Mode of Inheritance	Result
Glanzmann Thrombasthenia Type I, (GT); mutation originally found in Pyrenean Mountain Dog	Blood Disorders	Autosomal Recessive	Clear
Glanzmann Thrombasthenia Type I, (GT); mutation originally found in mixed breed dogs	Blood Disorders	Autosomal Recessive	Clear
Globoid Cell Leukodystrophy or Krabbe Disease, (GLD); mutation originally found in Terriers	Neuromuscular Disorders	Autosomal Recessive	Clear
Golden Retriever Progressive Retinal Atrophy 1, (GR_PRA 1)	Ocular Disorders	Autosomal Recessive	Clear
Hereditary Ataxia or Cerebellar Ataxia; mutation originally found in Old English Sheepdog and Gordon Setter	Neurological Disorders	Autosomal Recessive	Clear
Hereditary Footpad Hyperkeratosis, (HFH)	Dermal Disorders	Autosomal Recessive	Clear
Hereditary Phosphofructokinase (PFK) Deficiency	Blood Disorders	Autosomal Recessive	Clear
Hereditary Vitamin D-Resistant Rickets, (HVDRR)	Skeletal Disorders	Autosomal Recessive	Clear
Hyperekplexia or Startle Disease	Neurological Disorders	Autosomal Recessive	Clear

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Test results - Known disorders in the breed - page 5

Disorder	Type	Mode of Inheritance	Result
Hyperuricosuria, (HUU)	Renal Disorders	Autosomal Recessive	Clear
Hypocatalasia or Acatalasemia	Metabolic Disorders	Autosomal Recessive	Clear
Hypomyelination; mutation originally found in Weimaraner	Neurological Disorders	Autosomal Recessive	Clear
Intestinal Cobalamin Malabsorption or Imerslund-Gräsbeck Syndrome, (IGS); mutation originally found in Beagle	Metabolic Disorders	Autosomal Recessive	Clear
Intestinal Cobalamin Malabsorption or Imerslund-Gräsbeck Syndrome, (IGS); mutation originally found in Border Collie	Metabolic Disorders	Autosomal Recessive	Clear
L-2-Hydroxyglutaric aciduria, (L2HGA); mutation originally found in Staffordshire Bull Terrier	Neurological Disorders	Autosomal Recessive	Clear
Lamellar Ichthyosis, (LI)	Dermal Disorders	Autosomal Recessive	Clear
Macrothrombocytopenia; disease-linked variant originally found in Norfolk and Cairn Terrier	Blood Disorders	Autosomal Recessive	Clear
May-Hegglin Anomaly (MHA)	Blood Disorders	Autosomal Dominant	Clear

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Test results - Known disorders in the breed - page 6

Disorder	Type	Mode of Inheritance	Result
Mucopolysaccharidosis Type VII, (MPS VII); mutation originally found in German Shepherd	Metabolic Disorders	Autosomal Recessive	Clear
Musladin-Lueke syndrome, (MLS)	Dermal Disorders	Autosomal Recessive	Clear
Myostatin deficiency (Double Muscling, "Bully")	Muscular Disorders	Autosomal Recessive	Clear
Narcolepsy; mutation originally found in Labrador Retriever	Other Disorders	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 10, (NCL10); mutation originally found in American Bulldog	Neurological Disorders	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 8, (NCL8); mutation originally found in Australian Shepherd	Neurological Disorders	Autosomal Recessive	Clear
Osteochondrodysplasia; mutation originally found in Miniature Poodle	Skeletal Disorders	Autosomal Recessive	Clear
Osteogenesis Imperfecta, (OI); mutation originally found in Dachshund	Skeletal Disorders	Autosomal Recessive	Clear
Persistent Müllerian Duct Syndrome, (PMDS); mutation originally found in Miniature Schnauzer	Other Disorders	Autosomal Recessive	Clear

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Test results - Known disorders in the breed - page 7

Disorder	Type	Mode of Inheritance	Result
Prekallikrein Deficiency	Blood Disorders	Autosomal Recessive	Clear
Primary Ciliary Dyskinesia, (PCD)	Other Disorders	Autosomal Recessive	Clear
Primary Hereditary Cataract, (PHC); mutation originally found in Australian Shepherd	Ocular Disorders	Autosomal Dominant (Incomplete Penetrance)	Clear
Primary Lens Luxation, (PLL)	Ocular Disorders	Autosomal Recessive	Clear
Primary Open Angle Glaucoma, (POAG); mutation originally found in Beagle	Ocular Disorders	Autosomal Recessive	Clear
Primary Open Angle Glaucoma, (POAG); mutation originally found in Norwegian Elkhound	Ocular Disorders	Autosomal Recessive	Clear
Progressive Retinal Atrophy, (PRA); mutation originally found in Basenji	Ocular Disorders	Autosomal Recessive	Clear
Protein Losing Nephropathy, (PLN); NPHS1 gene variant	Renal Disorders		Clear
Pyruvate Kinase Deficiency; mutation originally found in Beagle	Blood Disorders	Autosomal Recessive	Clear

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Test results - Known disorders in the breed - page 8

Disorder	Type	Mode of Inheritance	Result
Pyruvate Kinase Deficiency; mutation originally found in West Highland White Terrier	Blood Disorders	Autosomal Recessive	Clear
Renal Cystadenocarcinoma and Nodular Dermatofibrosis, (RCND)	Renal Disorders	Autosomal Dominant	Clear
Rod-Cone Dysplasia 1, (rcd1); mutation originally found in Irish Setter	Ocular Disorders	Autosomal Recessive	Clear
Rod-Cone Dysplasia 3, (rcd3)	Ocular Disorders	Autosomal Recessive	Clear
Sensory Neuropathy; mutation originally found in Border Collie	Neurological Disorders	Autosomal Recessive	Clear
Skeletal Dysplasia 2, (SD2)	Skeletal Disorders	Autosomal Recessive	Clear
Spinocerebellar Ataxia with Myokymia and/or Seizures (SCA)	Neurological Disorders	Autosomal Recessive	Clear
Spinocerebellar Ataxia/ Late-Onset Ataxia (SCA, LOA)	Neurological Disorders	Autosomal Recessive	Clear
Spongy Degeneration with Cerebellar Ataxia, (SDCA1); mutation originally found in Belgian Shepherd Dog	Neurological Disorders	Autosomal Recessive	Clear

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Test results - Known disorders in the breed - page 9

Disorder	Type	Mode of Inheritance	Result
Trapped Neutrophil Syndrome, (TNS)	Blood Disorders	Autosomal Recessive	Clear
Von Willebrand's Disease (vWD) Type 1	Blood Disorders	Autosomal Recessive	Clear
Von Willebrand's Disease (vWD) Type 3; mutation originally found in Shetland Sheepdog	Blood Disorders	Autosomal Recessive	Clear
X-Linked Myotubular Myopathy	Muscular Disorders	X-linked Recessive	Clear
X-Linked Progressive Retinal Atrophy 2, (XLPRA2; Type A PRA)	Ocular Disorders	X-linked Recessive	Clear
Xanthinuria, Type 1a; mutation originally found in mixed breed dogs	Renal Disorders	Autosomal Recessive	Clear

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Test results for pharmacogenetics

Disorder	Mode of Inheritance	Result
Multi-Drug Resistance 1, (MDR1)	Autosomal Dominant	Clear

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Test results - Traits - page 1

Coat Type

Trait	Genotype	Description
Coat Length	I/I	The dog is genetically long-haired.
Furnishings / Improper Coat in Portuguese Water Dogs (marker test)	AG/TC	The dog is likely genetically heterozygous at the furnishings locus, but may express the phenotype.
KRT71 c.451C>T (p.Arg151Trp)	C/T	The dog is likely to have curly hair, if it is long-haired. The dog carries one copy of the tested allele causing curly coat, and may also pass on the non-curly allele to its offspring.
MC5R c.237A>T	T/T	The dog has two copies of the allele associated with low shedding. The dog is likely average or low shedder.
SGK3 (p.Val96Gly*fs*)	I/I	The dog does not carry the tested hairlessness allele of the American Hairless Terrier.
SGK3 c.137_138insT (p.Glu47Gly*fs*)	D/D	The dog does not carry the tested hairlessness allele of the Scottish Deerhound.

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Test results - Traits - page 2

Coat Colour

Trait	Genotype	Description
Colour Locus E - Extensions	Em/e	The dog is likely to have a dark mask. The dog carries recessive red.
Colour Locus B - Brown	b/b II bb/B	Dog with this genotype may express brown or black pigment. The dog has black pigment, if the b alleles causing brown colour are located on the same chromosome.
Colour Locus K - Dominant Black	KB/ky || KB/kbr || kbr/ky || kbr/kbr	The dog is genetically dominant black or brindle.
Colour Locus A - Agouti	at/at	The dog has genetically tan points or saddle tan pattern.
Colour Locus S - Piebald or extreme white spotting	sp/sp	The dog is likely to have piebald spotting or to be extreme white.
Colour Locus H - Harlequin	h/h	The dog doesn't have harlequin pattern.
Dilution (d^2 allele)	D/D	The dog does not carry any copies of the rare d2 allele associated with dilution in Chow Chow, French Bulldog, Sloughi and Thai Ridgeback.
Merle (M allele)	m/m	The dog is genetically non-merle and does not carry a *SILV* gene SINE insertion.
Saddle Tan (*RALY* gene dupl.)	dup/dup	The dog may have tan points if it has tan point genotype at the A locus.
Albinism (c^{aL}-allele)	C/C	The dog does not carry the tested mutation for albinism.

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Test results - Traits - page 3

Body Size

Trait	Genotype	Description
IGF1 (chr15:41221438)	A/A	The dog is homozygous for the derived allele typically associated with small body mass.
IGF1R c.611G>A (p.Arg204His)	A/A	The dog has two derived alleles typically found in small and medium-sized breeds.
ACSL4 chrX.82919525C>T	C/C	The dog doesn't have the allele associated with large skeletal size and heavy muscling with considerable back fat thickness.
IGSF1 p.Asp768Glu	C/C	The dog doesn't have the allele associated with heavy muscling
IRS4 chrX:82296039	A/A	The dog has two copies of the allele associated with large body size.
FGF4 insertion	D/I	The dog is heterozygous to the fgf4 insertion associated with breed-defining Chondrodysplasia.
STC2 (chr4:39182836)	A/T	The dog carries one copy of the allele associated with reduced body size and one copy of the allele associated with no size reduction.
GHR1 (p.Glu191Lys)	A/A	The dog is homozygous for the derived allele associated with reduced body size.
GHR2 (p.Pro177Leu)	T/T	The dog is homozygous for the derived allele associated with reduced body size.
HMGA2 (chr10:8348804)	A/A	The dog has two copies of the derived allele associated with reduced body size.

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Test results - Traits - page 4

Morphology

Trait	Genotype	Description
BMP3 c.1344C>A (p.Phe448Leu)	C/C	The dog does not carry the tested allele typically associated with shortened head (brachycephaly). The dog is more likely to have an elongated head (dolichocephaly).
SMOC2	A/A	
chr10:11072007	C/T	The dog carries one copy of an allele typically associated with floppy ears, and one copy of an allele typically associated with pricked ears.
T c.189C>G (p.Ile63Met)	C/C	The dog does not carry the tested bobtail-causing genetic variant. The dog is most likely long-tailed.
EPAS1 (p.Gly305Ser)	G/G	The dog does not carry the tested variant associated with adaptation to high altitudes.
LIMBR1 DC-1	G/G	The dog does not carry the tested allele associated with hind dewclaws in Asian breeds. The dog is not likely to have hind dewclaws.
LIMBR1 DC-2	A/G	The dog carries one copy of the allele associated with hind dewclaws in western breeds. About 50% of the dogs with this genotype have hind dewclaws.
AXL4	D/D	The dog does not have the tested allele typically associated with blue eyes in Siberian Huskies. The dog is likely to have brown eyes.

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Test results - Additional disorders found in other breeds - page 1

Blood Disorders

Disorder	Mode of Inheritance	Result
Canine Scott Syndrome, (CSS)	Autosomal Recessive	Clear
Factor IX Deficiency or Hemophilia B; mutation Gly379Glu	X-linked Recessive	Clear
Factor IX Deficiency or Hemophilia B; mutation originally found in Airedale Terrier	X-linked Recessive	Clear
Factor IX Deficiency or Hemophilia B; mutation originally found in Lhasa Apso	X-linked Recessive	Clear
Factor VIII Deficiency or Hemophilia A; mutation originally found in Boxer	X-linked Recessive	Clear
Factor VIII Deficiency or Hemophilia A; mutation originally found in German Shepherd Dog	X-linked Recessive	Clear
Factor VIII Deficiency or Hemophilia A; mutation originally found in Havanese	X-linked Recessive	Clear
Factor VIII Deficiency or Hemophilia A; mutation originally found in Old English Sheepdog	X-linked Recessive	Clear
Factor XI Deficiency	Autosomal Dominant (Incomplete Penetrance)	Clear
Familial Congenital Methemoglobinemia; mutation originally found in Pomeranian	Autosomal Recessive	Clear
Hereditary Elliptocytosis		Clear
Pyruvate Kinase Deficiency; mutation originally found in Basenji	Autosomal Recessive	Clear
Pyruvate Kinase Deficiency; mutation originally found in Pug	Autosomal Recessive	Clear
Von Willebrand's Disease (vWD) Type 2	Autosomal Recessive	Clear
Von Willebrand's Disease (vWD) Type 3; mutation originally found in Kooikerhondje	Autosomal Recessive	Clear
Von Willebrand's Disease (vWD) Type 3; mutation originally found in Scottish Terrier	Autosomal Recessive	Clear

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Test results - Additional disorders found in other breeds - page 2

Ocular Disorders - page 1

Disorder	Mode of Inheritance	Result
Canine Multifocal Retinopathy 1, (CMR1); mutation originally found in Mastiff-related breeds	Autosomal Recessive	Clear
Canine Multifocal Retinopathy 2, (CMR2); mutation originally found in Coton de Tulear	Autosomal Recessive	Clear
Canine Multifocal Retinopathy 3, (CMR3); mutation originally found in Lapponian Herder	Autosomal Recessive	Clear
Cone Degeneration, (CD) or Achromatopsia; mutation originally found in German Shepherd Dog	Autosomal Recessive	Clear
Cone Degeneration, (CD) or Achromatopsia; mutation originally found in German Shorthaired Pointer	Autosomal Recessive	Clear
Cone-Rod Dystrophy, (cord1-PRA / crd4)	Autosomal Recessive (Incomplete Penetrance)	Clear
Cone-Rod Dystrophy, Standard Wirehaired Dachshund, (crd SWD)	Autosomal Recessive	Clear
Congenital Eye Disease; mutation originally found in Irish Soft-Coated Wheaten Terrier	Autosomal Recessive	Clear
Early Onset PRA (EOPRA); mutation originally found in Portuguese Water Dog	Autosomal Recessive	Clear
Generalized Progressive Retinal Atrophy	Autosomal Recessive	Clear
Goniodysgenesis and glaucoma; mutation originally found in Border Collie	Autosomal Recessive	Clear
Italian Greyhound Progressive Retinal Atrophy 1 (IG-PRA1)	Autosomal Recessive	Clear
Primary Open Angle Glaucoma, (POAG); mutation originally found in Basset Fauve de Bretagne	Autosomal Recessive	Clear
Primary Open Angle Glaucoma, (POAG); mutation originally found in Petit Basset Griffon Vendeen	Autosomal Recessive	Clear
Primary lens luxation (PLL) and glaucoma; mutation originally found in Shar Pei	Autosomal Recessive	Clear
Progressive Retinal Atrophy (PRA4); mutation originally found in Lhasa Apso	Autosomal Recessive	Clear
Progressive Retinal Atrophy Type III, (PRA type III); mutation originally found in Tibetan Spaniel and Tibetan Terrier	Autosomal Recessive	Clear
Progressive Retinal Atrophy, (CNGA1-PRA); mutation originally found in Shetland Sheepdog	Autosomal Recessive	Clear
Progressive Retinal Atrophy, (PAP1_PRA); mutation originally found in Papillon and Phalene	Autosomal Recessive	Clear
Progressive Retinal Atrophy, (PRA); mutation originally found in Swedish Vallhund	Autosomal Recessive	Clear
Rod-Cone Dysplasia 1a, (rdc1a); mutation originally found in Sloughi	Autosomal Recessive	Clear

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Test results - Additional disorders found in other breeds - page 3

Ocular Disorders - page 2

Disorder	Mode of Inheritance	Result
X-Linked Progressive Retinal Atrophy 1, (XLPRA1)	X-linked Recessive	Clear

Cardiac Disorders

Disorder	Mode of Inheritance	Result
Dilated Cardiomyopathy, (DCM); mutation originally found in Schnauzer	Autosomal Recessive	Clear
Long QT Syndrome	Autosomal Dominant	Clear

Endocrine Disorders

Disorder	Mode of Inheritance	Result
Congenital Dyshormonogenic Hypothyroidism with Goiter; mutation originally found in Shih Tzu	Autosomal Recessive	Clear
Congenital Hypothyroidism; mutation originally found in Tenterfield Terrier	Autosomal Recessive	Clear

Immunological Disorders

Disorder	Mode of Inheritance	Result
Autosomal Recessive Severe Combined Immunodeficiency, (ARSCID)	Autosomal Recessive	Clear
Myeloperoxidase Deficiency	Autosomal Recessive	Clear
Severe Combined Immunodeficiency in Frisian Water Dogs, (SCID)	Autosomal Recessive	Clear
X-Linked Severe Combined Immunodeficiency (XSCID); mutation originally found in Basset Hound	X-linked Recessive	Clear
X-Linked Severe Combined Immunodeficiency (XSCID); mutation originally found in Cardigan Welsh Corgi	X-linked Recessive	Clear

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Test results - Additional disorders found in other breeds - page 4

Renal Disorders

Disorder	Mode of Inheritance	Result
Cystic Renal Dysplasia and Hepatic Fibrosis; mutation originally found in Norwich Terrier	Autosomal Recessive	Clear
Cystinuria Type I-A; mutation originally found in Newfoundland Dog	Autosomal Recessive	Clear
Fanconi Syndrome	Autosomal Recessive	Clear
Polycystic Kidney Disease in Bull Terriers, (BTPKD)	Autosomal Dominant	Clear
Primary Hyperoxaluria, (PH); mutation originally found in Coton de Tulear	Autosomal Recessive	Clear
X-Linked Hereditary Nephropathy, (XLHN)	X-linked Recessive	Clear
X-Linked Hereditary Nephropathy, (XLHN); mutation originally found in Navasota Dog	X-linked Recessive	Clear
Xanthinuria, Type 2a; mutation originally found in Toy Manchester Terrier	Autosomal Recessive	Clear
Xanthinuria, Type 2b; mutation originally found in Cavalier King Charles Spaniel and English Cocker Spaniel	Autosomal Recessive	Clear

Metabolic Disorders

Disorder	Mode of Inheritance	Result
Glycogen Storage Disease Type II or Pompe's Disease, (GSD II)	Autosomal Recessive	Clear
Glycogen Storage Disease Type IIIa, (GSD IIIa)	Autosomal Recessive	Clear
Glycogen Storage Disease Type Ia, (GSD Ia)	Autosomal Recessive	Clear
Mucopolysaccharidosis Type IIIA, (MPS IIIA); mutation originally found in Dachshund	Autosomal Recessive	Clear
Mucopolysaccharidosis Type IIIA, (MPS IIIA); mutation originally found in New Zealand Huntaway	Autosomal Recessive	Clear
Mucopolysaccharidosis Type VII, (MPS VII); mutation originally found in Brazilian Terrier	Autosomal Recessive	Clear
Pyruvate Dehydrogenase Phosphatase 1 (PDP1) Deficiency	Autosomal Recessive	Clear

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Test results - Additional disorders found in other breeds - page 5

Muscular Disorders

Disorder	Mode of Inheritance	Result
Cavalier King Charles Spaniel Muscular Dystrophy, (CKCS-MD)	X-linked Recessive	Clear
Centronuclear Myopathy, (CNM); mutation originally found in Great Dane	Autosomal Recessive	Clear
Duchenne or Dystrophin Muscular Dystrophy, (DMD); mutation originally found in Norfolk Terrier	X-linked Recessive	Clear
Muscular Dystrophy, Ullrich-type; mutation originally found in Landseer	Autosomal Recessive	Clear
Myotonia Congenita; mutation originally found in Australian Cattle Dog	Autosomal Recessive	Clear
Myotubular Myopathy; mutation originally found in Rottweiler	X-linked Recessive	Clear
Nemaline Myopathy; mutation originally found in American Bulldog	Autosomal Recessive	Clear

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Test results - Additional disorders found in other breeds - page 6

Neurological Disorders - page 1

Disorder	Mode of Inheritance	Result
Acral Mutilation Syndrome, (AMS)	Autosomal Recessive	Clear
Alexander Disease (AxD); mutation originally found in Labrador Retriever	Autosomal Dominant	Clear
Bandera's Neonatal Ataxia, (BNAt)	Autosomal Recessive	Clear
Benign Familial Juvenile Epilepsy or Remitting Focal Epilepsy	Autosomal Recessive	Clear
Cerebellar Cortical Degeneration, (CCD); mutation originally found in Vizsla	Autosomal Recessive	Clear
Cerebral Dysfunction; mutation originally found in Friesian Stabyhoun	Autosomal Recessive	Clear
Dandy-Walker-Like Malformation (DWLM); mutation originally found in Eurasier	Autosomal Recessive	Clear
Hereditary Ataxia; mutation originally found in in Norwegian Buhund	Autosomal Recessive	Clear
Juvenile Myoclonic Epilepsy, (JME); mutation originally found in Rhodesian Ridgeback	Autosomal Recessive	Clear
Juvenile encephalopathy; mutation originally found in Parson Russell Terrier	Autosomal Recessive	Clear
L-2-Hydroxyglutaric aciduria, (L2HGA); mutation originally found in West Highland White Terrier	Autosomal Recessive	Clear
Lagotto Storage Disease, (LSD)	Autosomal Recessive	Clear
Neonatal Cerebellar Cortical Degeneration or Cerebellar Abiotrophy, (NCCD)	Autosomal Recessive	Clear
Neonatal Encephalopathy with Seizures, (NEWS)	Autosomal Recessive	Clear
Neuroaxonal Dystrophy (NAD); mutation originally found in Rottweiler	Autosomal Recessive	Clear
Neuroaxonal Dystrophy (NAD); mutation originally found in Spanish Water Dog	Autosomal Recessive	Clear
Neuroaxonal Dystrophy, (NAD); mutation originally found in Papillon	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 1, (NCL1); mutation originally found in Dachshund	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 8, (NCL8); mutation originally found in Alpine Dachsbracke	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 8, (NCL8); mutation originally found in English Setter	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis, (NCL7); mutation originally found in Chinese Crested Dog and Chihuahua	Autosomal Recessive	Clear

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Test results - Additional disorders found in other breeds - page 7

Neurological Disorders - page 2

Disorder	Mode of Inheritance	Result
Polyneuropathy with ocular abnormalities and neuronal vacuolation, (POANV); mutation originally found in Black Russian Terrier	Autosomal Recessive	Clear
Progressive Early-Onset Cerebellar Ataxia; mutation originally found in Finnish Hound	Autosomal Recessive	Clear
Shaking Puppy Spongiform LeucoEncephaloMyelopathy, (SLEM); mutation originally found in Border Terrier	Autosomal Recessive	Clear
Spongy Degeneration with Cerebellar Ataxia, (SDCA2); mutation originally found in Belgian Shepherd Dog	Autosomal Recessive	Clear
X-Linked Tremors; mutation originally found in English Springer Spaniel	X-linked Recessive	Clear

Neuromuscular Disorders

Disorder	Mode of Inheritance	Result
Congenital Myasthenic Syndrome (CMS); mutation originally found in Labrador Retriever	Autosomal Recessive	Clear
Congenital Myasthenic Syndrome, (CMS); mutation originally found in Jack Russell Terrier	Autosomal Recessive	Clear
Congenital Myasthenic Syndrome, (CMS); mutation originally found in Old Danish Pointing Dog	Autosomal Recessive	Clear
GM1 Gangliosidosis; mutation originally found in Portuguese Water Dog	Autosomal Recessive	Clear
GM2 Gangliosidosis; mutation originally found in Toy Poodle	Autosomal Recessive	Clear
Globoid Cell Leukodystrophy or Krabbe Disease, (GLD); mutation originally found in Irish Setter	Autosomal Recessive	Clear
Paroxysmal Dyskinesia, (PxD); mutation originally found in Irish Soft Coated Wheaten Terrier	Autosomal Recessive	Clear

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Skeletal Disorders

Disorder	Mode of Inheritance	Result
Cleft Palate; Cleft Lip and Palate with Syndactyly; ADAMTS20 gene mutation originally found in Nova Scotia Duck Tolling Retriever	Autosomal Recessive	Clear
Cleft Palate; DLX6 gene mutation originally found in Nova Scotia Duck Tolling Retriever	Autosomal Recessive	Clear
Osteochondromatosis; mutation originally found in American Staffordshire Terrier	Autosomal Dominant	Clear
Osteogenesis Imperfecta, (OI); mutation originally found in Beagle	Autosomal Dominant	Clear
Skeletal Disease (Hypophosphatasia); mutation originally found in Karelian Bear Dog	Autosomal Recessive	Clear
Spondylocostal Dysostosis	Autosomal Recessive	Clear
Van den Ende-Gupta Syndrome, (VDEGS)	Autosomal Recessive	Clear

Dermal Disorders

Disorder	Mode of Inheritance	Result
Dystrophic Epidermolysis Bullosa; mutation originally found in Central Asian Ovcharka	Autosomal Recessive	Clear
Dystrophic Epidermolysis Bullosa; mutation originally found in Golden Retriever	Autosomal Recessive	Clear
Epidermolytic Hyperkeratosis	Autosomal Recessive	Clear
Focal Non-Epidermolytic Palmoplantar Keratoderma, (FNEPPK); mutation originally found in Dogue de Bordeaux	Autosomal Recessive	Clear
Hereditary Nasal Parakeratosis, (HNPK); mutation originally found in Greyhound	Autosomal Recessive	Clear
Ichthyosis; mutation originally found in American Bulldog	Autosomal Recessive	Clear
Ichthyosis; mutation originally found in Great Dane	Autosomal Recessive	Clear
Lethal Acrodermatitis, (LAD); mutation originally found in in Bull Terrier and Miniature Bull Terrier	Autosomal Recessive	Clear
Ligneous Membranitis	Autosomal Recessive	Clear
X-Linked Ectodermal Dysplasia, (XHED)	X-linked Recessive	Clear

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Test results - Additional disorders found in other breeds - page 9

Other Disorders

Disorder	Mode of Inheritance	Result
Acute Respiratory Distress Syndrome, (ARDS); mutation originally found in Dalmatian	Autosomal Recessive	Clear
Amelogenesis Imperfecta, (AI); mutation originally found in Parson Russell Terrier	Autosomal Recessive	Clear
Dental Hypomineralisation; mutation originally found in Border Collie	Autosomal Recessive	Clear
Lung Developmental Disease; mutation originally found in in Airedale Terrier	Autosomal Recessive	Clear
Narcolepsy; mutation originally found in Dachshund	Autosomal Recessive	Clear

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APPENDIX
Explanation of the results of the tested disorders

Autosomal recessive inheritance (ARI)

Clear - A dog carries no copies of the tested mutation and has no or reduced likelihood of developing and passing on the disease/condition.
Carrier - A dog carries one copy of the tested mutation. Carriers typically have a normal, healthy appearance but pass on the mutation to approximately 50% of their offspring.
At risk - A dog carries two copies of the tested mutation and is at high or increased risk of developing the disease/condition.

Autosomal dominant inheritance (ADI)

Clear - A dog carries no copies of the tested mutation and has no or reduced likelihood of developing and passing on the disease/condition.
At risk - A dog carries one or two copies of the tested mutation and is at high or increased risk of developing the disease/condition.

X-linked recessive inheritance (X-linked)

Clear - A dog carries no copies of the tested mutation and has no or reduced likelihood of developing and passing on the disease/condition.
Carrier - Female carriers typically have a normal, healthy appearance but carry one copy of the tested mutation on one of their X chromosomes. As males only have one X chromosome, there are no male carriers.
At risk - Female dogs at risk carry two mutated copies of the tested mutation. Males carry one copy of the tested mutation on their single X chromosome. Dogs at risk are at high or increased risk of developing the disease/condition.

Please note that the descriptions above are generalized based on typically observed inheritance patterns. When obtaining a 'carrier' or 'at risk' test result, always refer to the corresponding online test documentation for more detailed information on the condition and any exceptions.

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