



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Registered Name: zampe fortuna Boomer

Owner: Dünnenberger Jörg

Nickname: Boomer

Country: Switzerland

Registration ID: 756093900058183

Testing date: 2019/8/27


Microchip: 756093900058183

Breed: Lagotto Romagnolo - Romagna Water Dog

Gender: Male

Dog's identity verified from microchip or tattoo by veterinarian or other authorised person during sample taking: **Yes**

Test results - Known disorders in the breed

| Disorder | Type | Mode of Inheritance | Result |
|---|------------------------|---------------------|---|
| Benign Familial Juvenile Epilepsy or Remitting Focal Epilepsy | Neurological Disorders | Autosomal Recessive |  Carrier |
| Hyperuricosuria, (HUU) | Renal Disorders | Autosomal Recessive | Clear |
| Lagotto Storage Disease, (LSD) | Neurological Disorders | Autosomal Recessive | Clear |

Test results - New potential disorders in the breed

| Disorder | Type | Mode of Inheritance | Result |
|---|------------------------|---------------------|--------|
| Neuroaxonal Dystrophy (NAD); mutation originally found in Spanish Water Dog | Neurological Disorders | Autosomal Recessive | Clear |

On behalf of Genoscooper Laboratories,



SIGNATURE

Jonas Donner, PhD, Head of Research and Development
at Genoscooper Laboratories



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Registered Name: zampe fortuna Boomer

Owner: Dünnenberger Jörg

Nickname: Boomer

Country: Switzerland

Registration ID: 756093900058183

Testing date: 2019/8/27

Microchip: 756093900058183

Breed: Lagotto Romagnolo - Romagna Water Dog

Gender: Male

Dog's identity verified from microchip or tattoo by veterinarian or other authorised person during sample taking: **Yes**

Test results for pharmacogenetics

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

On behalf of Genoscoper Laboratories,

SIGNATURE

Jonas Donner, PhD, Head of Research and Development
at Genoscoper Laboratories



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Registered Name: zampe fortuna Boomer

Owner: Dünnenberger Jörg

Nickname: Boomer

Country: Switzerland

Registration ID: 756093900058183

Testing date: 2019/8/27

Microchip: 756093900058183

Breed: Lagotto Romagnolo - Romagna Water Dog

Gender: Male

Dog's identity verified from microchip or tattoo by veterinarian or other authorised person during sample taking: **Yes**

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) | AA/TT | The dog is genetically likely to express furnishings. |
| KRT71 c.451C>T (p.Arg151Trp) | T/T | The dog carries two copies of the tested allele causing curly coat. The dog is likely to have curly hair, if it is long-haired. |
| SGK3 (p.Val96Glyfs) | I/I | The dog does not carry the tested hairlessness allele of the American Hairless Terrier. |

On behalf of Genoscooper Laboratories,

SIGNATURE

Jonas Donner, PhD, Head of Research and Development
at Genoscooper Laboratories



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Registered Name: zampe fortuna Boomer

Owner: Dünnenberger Jörg

Nickname: Boomer

Country: Switzerland

Registration ID: 756093900058183

Testing date: 2019/8/27

Microchip: 756093900058183

Breed: Lagotto Romagnolo - Romagna Water Dog

Gender: Male

Dog's identity verified from microchip or tattoo by veterinarian or other authorised person during sample taking: **Yes**

Test results - Traits - page 2

Coat Colour

| Trait | Genotype | Description |
|--|----------|---|
| Colour Locus E - Extensions | e/E | The dog is likely to express the coat colour defined by the K and A loci. The dog carries recessive red. |
| Colour Locus B - Brown | b/b | The dog is likely to have brown pigment. |
| Colour Locus K - Dominant Black | KB/KB | The dog is genetically dominant black. |
| Colour Locus A - Agouti | at/a | The dog has genetically tan points or saddle tan pattern. The dog carries recessive black. |
| 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. |
| Merle (M allele) | m/m | The dog is genetically non-merle and does not carry a <i>SILV</i> gene SINE insertion. |
| Saddle Tan (<i>RALY</i> gene dupl.) | dup/dup | The dog may have tan points if it has tan point genotype at the A locus. |
| Albinism (<i>caL</i> -allele) | C/C | The dog does not carry the tested mutation for albinism. |
| Dilution (<i>d2</i> allele) | G/G | The dog does not carry any copies of the rare <i>d2</i> allele associated with dilution in Chow Chow, Sloughi and Thai Ridgeback. |

On behalf of Genoscooper Laboratories,

SIGNATURE

Jonas Donner, PhD, Head of Research and Development
at Genoscooper Laboratories



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Registered Name: zampe fortuna Boomer

Owner: Dünnenberger Jörg

Nickname: Boomer

Country: Switzerland

Registration ID: 756093900058183

Testing date: 2019/8/27

Microchip: 756093900058183

Breed: Lagotto Romagnolo - Romagna Water Dog

Gender: Male

Dog's identity verified from microchip or tattoo by veterinarian or other authorised person during sample taking: **Yes**

Test results - Traits - page 3

Morphology

| Trait | Genotype | Description |
|---------------------------------|----------|---|
| 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 | G/G | The dog does not carry the tested allele associated with hind dewclaws in western breeds. The dog is likely not to have hind dewclaws. |
| EPAS1 (p.Gly305Ser) | G/G | The dog does not carry the tested variant associated with adaptation to high altitudes. |
| chr10:11072007 | C/C | The dog carries two copies of an allele typically associated with floppy ears. The dog is more likely to have floppy than 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. |
| 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). |

On behalf of Genoscooper Laboratories,

SIGNATURE

Jonas Donner, PhD, Head of Research and Development
at Genoscooper Laboratories



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Registered Name: zampe fortuna Boomer

Owner: Dünnenberger Jörg

Nickname: Boomer

Country: Switzerland

Registration ID: 756093900058183

Testing date: 2019/8/27

Microchip: 756093900058183

Breed: Lagotto Romagnolo - Romagna Water Dog

Gender: Male

Dog's identity verified from microchip or tattoo by veterinarian or other authorised person during sample taking: **Yes**

Test results - Traits - page 4

Body Size

| Trait | Genotype | Description |
|-------------------------------------|----------|--|
| <i>FGF4</i> insertion | D/D | The dog is homozygous for the ancient allele. The dog is likely to have legs of normal length. |
| <i>STC2</i> (chr4:39182836) | T/T | The dog has two copies of the ancestral allele associated with larger body size. |
| <i>GHR1</i> (p.Glu191Lys) | A/G | The dog carries one ancestral allele and one derived allele. |
| <i>GHR2</i> (p.Pro177Leu) | C/C | The dog has two copies of the ancestral allele associated with larger body size. |
| <i>HMGA2</i> (chr10:8348804) | G/G | The dog has two copies of the ancestral allele associated with larger body size. |
| <i>IGF1</i> (chr15:41221438) | A/A | The dog is homozygous for the derived allele typically associated with small body mass. |
| <i>IGF1R</i> c.611G>A (p.Arg204His) | A/G | The dog carries one copy of the derived allele and one copy of the ancestral allele. |

On behalf of Genoscooper Laboratories,

SIGNATURE

Jonas Donner, PhD, Head of Research and Development
at Genoscooper Laboratories



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

Blood Disorders - page 1

| Disorder | Mode of Inheritance | Result |
|--|--|--------|
| Bleeding disorder due to P2RY12 defect | Autosomal Recessive | Clear |
| Canine Cyclic Neutropenia, Cyclic Hematopoiesis, Grey Collie Syndrome, (CN) | Autosomal Recessive | Clear |
| Canine Leukocyte Adhesion Deficiency (CLAD), type III | Autosomal Recessive | Clear |
| 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 VII Deficiency | Autosomal 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 Old English Sheepdog | X-linked Recessive | Clear |
| Factor VIII Deficiency or Hemophilia A; p.Cys548Tyr mutation originally found in German Shepherd | X-linked Recessive | Clear |
| Factor XI Deficiency | Autosomal Dominant (Incomplete Penetrance) | Clear |
| Familial Congenital Methemoglobinemia; mutation originally found in Pomeranian | Autosomal Recessive | Clear |
| Glanzmann Thrombasthenia Type I, (GT); mutation originally found in Pyrenean Mountain Dog | Autosomal Recessive | Clear |
| Glanzmann Thrombasthenia Type I, (GT); mutation originally found in mixed breed dogs | Autosomal Recessive | Clear |
| Hereditary Elliptocytosis | | Clear |
| Hereditary Phosphofructokinase (PFK) Deficiency | Autosomal Recessive | Clear |
| Macrothrombocytopenia; disease-linked variant originally found in Norfolk and Cairn Terrier | Autosomal Recessive | Clear |
| May-Hegglin Anomaly (MHA) | Autosomal Dominant | Clear |
| Prekallikrein Deficiency | Autosomal Recessive | Clear |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

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

Blood Disorders - page 2

| Disorder | Mode of Inheritance | Result |
|---|---------------------|--------|
| Pyruvate Kinase Deficiency; mutation originally found in Basenji | Autosomal Recessive | Clear |
| Pyruvate Kinase Deficiency; mutation originally found in Beagle | Autosomal Recessive | Clear |
| Pyruvate Kinase Deficiency; mutation originally found in Pug | Autosomal Recessive | Clear |
| Pyruvate Kinase Deficiency; mutation originally found in West Highland White Terrier | Autosomal Recessive | Clear |
| Thrombopathia; mutation originally found in Basset Hound | Autosomal Recessive | Clear |
| Thrombopathia; mutation originally found in Eskimo Spitz | Autosomal Recessive | Clear |
| Thrombopathia; mutation originally found in Landseer | Autosomal Recessive | Clear |
| Trapped Neutrophil Syndrome, (TNS) | Autosomal Recessive | Clear |
| Von Willebrand's Disease (vWD) Type 1 | 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 |
| Von Willebrand's Disease (vWD) Type 3; mutation originally found in Shetland Sheepdog | Autosomal Recessive | Clear |



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

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 Alaskan Malamute | 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 1, (crd1); mutation originally found in American Staffordshire Terrier | Autosomal Recessive | Clear |
| Cone-Rod Dystrophy 2, (crd2); mutation originally found in American Pit Bull Terrier | 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 |
| Congenital Stationary Night Blindness, (CSNB) | Autosomal Recessive | Clear |
| Dominant Progressive Retinal Atrophy, (DPRA) | Autosomal Dominant | Clear |
| Early Retinal Degeneration, (erd); mutation originally found in Norwegian Elkhound | Autosomal Recessive | Clear |
| Generalized Progressive Retinal Atrophy | Autosomal Recessive | Clear |
| Golden Retriever Progressive Retinal Atrophy 1, (GR_PRA 1) | Autosomal Recessive | Clear |
| Golden Retriever Progressive Retinal Atrophy 2, (GR_PRA 2) | Autosomal Recessive | Clear |
| Primary Hereditary Cataract, (PHC); mutation originally found in Australian Shepherd | Autosomal Dominant (Incomplete Penetrance) | Clear |
| Primary Lens Luxation, (PLL) | 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 Beagle | Autosomal Recessive | Clear |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

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

Ocular Disorders - page 2

| Disorder | Mode of Inheritance | Result |
|--|---------------------|--------|
| Primary Open Angle Glaucoma, (POAG); mutation originally found in Norwegian Elkhound | Autosomal Recessive | Clear |
| Primary Open Angle Glaucoma, (POAG); mutation originally found in Petit Basset Griffon Vendéen | 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 Basenji | Autosomal Recessive | Clear |
| Progressive Retinal Atrophy, (PRA); mutation originally found in Swedish Vallhund | Autosomal Recessive | Clear |
| Rod-Cone Dysplasia 1, (rcd1); mutation originally found in Irish Setter | Autosomal Recessive | Clear |
| Rod-Cone Dysplasia 1a, (rdc1a); mutation originally found in Sloughi | Autosomal Recessive | Clear |
| Rod-Cone Dysplasia 3, (rcd3) | Autosomal Recessive | Clear |
| X-Linked Progressive Retinal Atrophy 1, (XLPRA1) | X-linked Recessive | Clear |
| X-Linked Progressive Retinal Atrophy 2, (XLPRA2) | 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 |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

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

Endocrine Disorders

| Disorder | Mode of Inheritance | Result |
|---|---------------------|--------|
| Congenital Hypothyroidism; mutation originally found in Tenterfield Terrier | Autosomal Recessive | Clear |
| Congenital Hypothyroidism; mutation originally found in Toy Fox and Rat Terrier | Autosomal Recessive | Clear |

Immunological Disorders

| Disorder | Mode of Inheritance | Result |
|--|---------------------|--------|
| Autosomal Recessive Severe Combined Immunodeficiency, (ARSCID) | Autosomal Recessive | Clear |
| Complement 3 (C3) Deficiency | 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 |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

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

Renal Disorders

| Disorder | Mode of Inheritance | Result |
|---|---------------------|--------|
| 2,8-Dihydroxyadenine (2,8-DHA) urolithiasis | Autosomal Recessive | Clear |
| Cystinuria Type I-A; mutation originally found in Newfoundland Dog | Autosomal Recessive | Clear |
| Cystinuria Type II-A; mutation originally found in Australian Cattle Dog | Autosomal Dominant | Clear |
| Familial Nephropathy (FN); mutation originally found in English Cocker Spaniel | Autosomal Recessive | Clear |
| Familial Nephropathy (FN); mutation originally found in English Springer Spaniel | 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 |
| Protein Losing Nephropathy, (PLN); NPHS1 gene variant | | Clear |
| Renal Cystadenocarcinoma and Nodular Dermatofibrosis, (RCND) | Autosomal Dominant | 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 1a; mutation originally found in mixed breed dogs | Autosomal 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 |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

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

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 |
| Hypocatalasia or Acatlasemia | Autosomal Recessive | Clear |
| Intestinal Cobalamin Malabsorption or Imerslund-Gräsbeck Syndrome, (IGS); mutation originally found in Beagle | Autosomal Recessive | Clear |
| Intestinal Cobalamin Malabsorption or Imerslund-Gräsbeck Syndrome, (IGS); mutation originally found in Border Collie | 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 |
| Mucopolysaccharidosis Type VII, (MPS VII); mutation originally found in German Shepherd | Autosomal Recessive | Clear |
| Pyruvate Dehydrogenase Phosphatase 1 (PDP1) Deficiency | Autosomal Recessive | Clear |



Test results - Additional disorders found in other breeds - page 8

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 |
| Centronuclear Myopathy, (CNM); mutation originally found in Labrador Retriever | Autosomal Recessive | Clear |
| Duchenne or Dystrophin Muscular Dystrophy, (DMD); mutation originally found in Golden Retriever | X-linked 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 |
| Myostatin deficiency (Double Muscling, "Bully") | Autosomal Recessive | Clear |
| Myotonia Congenita; mutation originally found in Australian Cattle Dog | Autosomal Recessive | Clear |
| Myotonia Congenita; mutation originally found in in Labrador Retriever | 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 |
| X-Linked Myotubular Myopathy | X-linked Recessive | Clear |



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

Neurological Disorders - page 1

| Disorder | Mode of Inheritance | Result |
|---|--|--------|
| Acral Mutilation Syndrome, (AMS) | Autosomal Recessive | Clear |
| Alaskan Husky Encephalopathy, (AHE) | Autosomal Recessive | Clear |
| Alexander Disease (AxD); mutation originally found in Labrador Retriever | Autosomal Dominant | Clear |
| Bandera's Neonatal Ataxia, (BNAt) | 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 |
| Degenerative Myelopathy, (DM; SOD1A) | Autosomal Recessive (Incomplete Penetrance) | Clear |
| Early-Onset Progressive Polyneuropathy; mutation originally found in Alaskan Malamute | Autosomal Recessive | Clear |
| Early-Onset Progressive Polyneuropathy; mutation originally found in Greyhound | Autosomal Recessive | Clear |
| Fetal Onset Neuroaxonal Dystrophy, (FNAD) | Autosomal Recessive | Clear |
| Hereditary Ataxia or Cerebellar Ataxia; mutation originally found in Old English Sheepdog and Gordon Setter | Autosomal Recessive | Clear |
| Hereditary Ataxia; mutation originally found in in Norwegian Buhund | Autosomal Recessive | Clear |
| Hyperekplexia or Startle Disease | Autosomal Recessive | Clear |
| Hypomyelination; mutation originally found in Weimaraner | 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 Staffordshire Bull Terrier | Autosomal Recessive | Clear |
| L-2-Hydroxyglutaric aciduria, (L2HGA); mutation originally found in West Highland White Terrier | Autosomal Recessive | Clear |
| Neonatal Cerebellar Cortical Degeneration or Cerebellar Abiotrophy, (NCCD) | Autosomal Recessive | Clear |
| Neonatal Encephalopathy with Seizures, (NEWS) | Autosomal Recessive | Clear |



Test results - Additional disorders found in other breeds - page 10

Neurological Disorders - page 2

| Disorder | Mode of Inheritance | Result |
|--|---------------------|--------|
| Neuroaxonal Dystrophy (NAD); mutation originally found in Spanish Water Dog | Autosomal Recessive | Clear |
| Neuronal Ceroid Lipofuscinosis 1, (NCL1); mutation originally found in Dachshund | Autosomal Recessive | Clear |
| Neuronal Ceroid Lipofuscinosis 10, (NCL10); mutation originally found in American Bulldog | Autosomal Recessive | Clear |
| Neuronal Ceroid Lipofuscinosis 4A, (NCL4); mutation originally found in American Staffordshire Terrier | Autosomal Recessive | Clear |
| Neuronal Ceroid Lipofuscinosis 5, (NCL5); mutation originally found in Border Collie | 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 Australian Shepherd | 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 |
| 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 |
| Sensory Neuropathy; mutation originally found in Border Collie | Autosomal Recessive | Clear |
| Shaking Puppy Spongiform LeucoEncephaloMyelopathy, (SLEM); mutation originally found in Border Terrier | Autosomal Recessive | Clear |
| Spinocerebellar Ataxia with Myokymia and/or Seizures (SCA) | Autosomal Recessive | Clear |
| Spinocerebellar Ataxia/ Late-Onset Ataxia (SCA, LOA) | Autosomal Recessive | Clear |
| Spongy Degeneration with Cerebellar Ataxia, (SDCA1); mutation originally found in Belgian Shepherd Dog | 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 |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Test results - Additional disorders found in other breeds - page 11

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 |
| Exercise-Induced Collapse, (EIC) | Autosomal Recessive (Incomplete Penetrance) | Clear |
| GM1 Gangliosidosis; mutation originally found in Alaskan Husky | Autosomal Recessive | Clear |
| GM1 Gangliosidosis; mutation originally found in Portuguese Water Dog | Autosomal Recessive | Clear |
| GM1 Gangliosidosis; mutation originally found in Shiba Dog | Autosomal Recessive | Clear |
| GM2 Gangliosidosis, mutation originally found in Japanese Chin | 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 |
| Globoid Cell Leukodystrophy or Krabbe Disease, (GLD); mutation originally found in Terriers | Autosomal Recessive | Clear |
| Paroxysmal Dyskinesia, (PxD); mutation originally found in Irish Soft Coated Wheaten Terrier | Autosomal Recessive | Clear |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Test results - Additional disorders found in other breeds - page 12

Skeletal Disorders

| Disorder | Mode of Inheritance | Result |
|---|--|--------|
| Chondrodysplasia; mutation originally found in Norwegian Elkhound and Karelian Bear Dog | Autosomal Recessive | Clear |
| 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 |
| Craniomandibular Osteopathy, (CMO); mutation associated with terrier breeds | Autosomal Dominant (Incomplete Penetrance) | Clear |
| Hereditary Vitamin D-Resistant Rickets, (HVDRR) | Autosomal Recessive | Clear |
| Oculoskeletal Dysplasia 2 or Dwarfism-Retinal Dysplasia 2, (OSD2) | Autosomal Recessive | Clear |
| Osteochondrodysplasia; mutation originally found in Miniature Poodle | 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 |
| Osteogenesis Imperfecta, (OI); mutation originally found in Dachshund | Autosomal Recessive | Clear |
| Skeletal Disease; mutation originally found in Karelian Bear Dog | Autosomal Recessive | Clear |
| Skeletal Dysplasia 2, (SD2) | Autosomal Recessive | Clear |
| Spondylocostal Dysostosis | Autosomal Recessive | Clear |
| Van den Ende-Gupta Syndrome, (VDEGS) | Autosomal Recessive | Clear |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Test results - Additional disorders found in other breeds - page 13

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 |
| Golden Retriever Ichthyosis | Autosomal Recessive | Clear |
| Hereditary Footpad Hyperkeratosis, (HFH) | 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 |
| Lamellar Ichthyosis, (LI) | 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 |
| Musladin-Lueke syndrome, (MLS) | Autosomal Recessive | Clear |
| X-Linked Ectodermal Dysplasia, (XHED) | X-linked Recessive | Clear |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

Test results - Additional disorders found in other breeds - page 14

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 Italian Greyhound | Autosomal Recessive | Clear |
| Amelogenesis Imperfecta, (AI); mutation originally found in Parson Russell Terrier | Autosomal Recessive | Clear |
| Congenital Keratoconjunctivitis Sicca and Ichthyosiform Dermatitis, (CKCSID) | Autosomal Recessive | Clear |
| Dental Hypomineralisation; mutation originally found in Border Collie | Autosomal Recessive | Clear |
| Narcolepsy; mutation originally found in Dachshund | Autosomal Recessive | Clear |
| Narcolepsy; mutation originally found in Doberman Pinscher | Autosomal Recessive | Clear |
| Narcolepsy; mutation originally found in Labrador Retriever | Autosomal Recessive | Clear |
| Persistent Müllerian Duct Syndrome, (PMDS); mutation originally found in Miniature Schnauzer | Autosomal Recessive | Clear |
| Primary Ciliary Dyskinesia, (PCD) | Autosomal Recessive | Clear |



8700 3853 0891

zampe fortuna Boomer, Lagotto Romagnolo - Romagna Water Dog

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.

Genoscooper Laboratories - Legal Notice

Genoscooper Laboratories' services and test results are produced based on samples and materials supplied by the Client. Testing and analysis is performed by using methods and processes that Genoscooper Laboratories deems appropriate. Genoscooper Laboratories reserves the right to make changes in the collection of the single-gene tests included in the testing service as well as to remove results derived from them, if new information comes available that in any way questions the validity of the test results. Results provided by Genoscooper Laboratories are prepared solely for the use of the Client. For further information, please visit: www.mydogdna.com/legal-notices