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Polen**Test Report**Order No.: 321823  
Date of Receipt: 2019-08-27  
Date of Analysis: 2019-09-18  
Date of Report: 2019-09-10  
Date of Print: 2019-09-18  
No of Pages: 3**Analysis of the genetic predisposition to disease in dogs  
H474 CombiBreed FCI01**Name: Cass Cool Lady  
Breed: Border Collie  
Lab-no.: HD201929138 Identification: 94500006086625  
Gender: male Date of birth: 2018-02-09

Disposition	Inheritance	Result
Brachyury (Bobtail)	dominant	Normal
CLAD Type III	recessive	Normal
Canine Multifocal Retinopathy Type 1	recessive	Normal
Canine Multifocal Retinopathy Type 3 (CMR3) 1	recessive	Normal
Canine Multifocal Retinopathy Type 3 (CMR3) 2	recessive	Normal
Congenital Stationary Night Blindness (CSNB)	recessive	Normal
Dermatofibrosis	dominant	Normal
Cyclic Neutropenia (Gray Collie Syndrome)	recessive	Normal
FBN2	multifactorial (see comment)	Normal
Hiplaxity I	multifactorial (see comment)	Normal
Hiplaxity II	multifactorial (see comment)	Normal
Hyperuricemia (HUU)	recessive	Normal
Mucopolysaccharidosis Type VII	recessive	Normal
Myotonia Congenita 2	recessive	Normal
Neuronal Ceroid Lipofuscinosis (NCL) 5	recessive	Normal

Disposition	Inheritance	Result
Progressive Retinaatrophy (rcd3-PRA)	recessive	Normal
Progressive Retinaatrophy (gPRA)	recessive	Normal
Primary Ciliary Dyskinesia	recessive	Normal
Primary Lens Luxation (PLL)	recessive	Normal
Trapped Neutrophil Syndrome (TNS)	recessive	Normal
X-SCID	x-chromosomal	Normal
Gallbladder Mucocele	dominant	Normal
IGS (Selective Cobalamin Malabsorption) 2	recessive	Normal
Hereditary Cataract (HC) - HSF4	dominant	Normal
Pituitary Dwarfism	recessive	Normal
Dilated Cardiomyopathy (DCM)	recessive	Normal
von-Willebrands disease type 1	dominant	Normal
von-Willebrands disease type 2	recessive	Normal

**Remark:** The analysis was performed by a partner laboratory.

**Comment:** Hiplaxity 1, Hiplaxity 2 and FBN2: Hiplaxity is of multifactorial origin, which means that the symptoms are a combination of genetic factors as well as the environment. This marker is part of a panel of genetic factors influencing hiplaxity.

Rheinbach, 2019-09-18

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( ) Dr. Jansen, Managing Director  
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## Legend

### Recessive:

**Normal:** The animal does not carry the mutation. In case of use in breeding, this animal will not spread the disposition into the population.

**Carrier:** The animal is heterozygous for the disposition. In case of use in breeding, on average 50% of the offspring will inherit the mutated allele. Carriers of the disposition will not become ill.

**Affected:** The animal has two mutated alleles. In case of use in breeding, all offspring will inherit the mutated allele. Affected animals will become ill.

### Dominant:

**Normal:** The animal does not carry the mutation. In case of use in breeding, this animal will not spread the disposition into the population.

**Carrier:** The animal is heterozygous for the disposition. In case of use in breeding, on average 50% of the offspring will inherit the mutated allele. Carriers of the disposition will become ill.

**Affected:** The animal has two mutated alleles. In case of use in breeding, all offspring will inherit the mutated allele. Affected animals will become ill.

### X-chromosomal:

**Normal:** The female animal does not carry the mutation. In case of use in breeding, this animal will not spread the disposition into the population.

Male animal carries a healthy copy of the x-chromosome and will not become ill.

**Carrier:** The female animal is heterozygous for the disposition. In case of use in breeding, on average 50% of the offspring will inherit the mutated allele. Female animals will not become ill

Male animals have only one copy of the x-chromosome. Therefore, carriers of the mutation will become ill.

**Affected:** The female animal has two mutated alleles and will become ill. In case of use in breeding, all offspring will inherit the mutated allele.

Male animals have only one copy of the x-chromosome. Therefore, carriers of the mutation will become ill.

### Multifactorial:

**Normal:** The animal does not carry the mutation. In case of use in breeding, this animal will not spread the disposition into the population.

**Carrier:** The animal is heterozygous for the disposition. In case of use in breeding, on average 50% of the offspring will inherit the mutated (undesirable) allele.

**Affected:** The animal has two mutated alleles. In case of use in breeding, all offspring will inherit the mutated (undesirable) allele.