

Detection of c.118G>A mutation  
in SOD1 gene causing  
degenerative myelopathy in dogs

**Sample**

Sample: 19-10707  
Name: Harvey z Letohradského ranče  
Breed: Landseer (European Continental type)  
Microchip: 945 000 006 074 106  
Reg. number: CMKU/LS/833/17  
Date of birth: 08.10.2017  
Sex: male  
Date received: 18.04.2019  
Sample type: blood  
The identity of the animal has been checked by  
VET-KLINIKA s.r.o.

**Customer**

Renata Nováková  
Gen. Strankmüllera 1488  
25002 Stará Boleslav  
Czech Republic

**Result: Mutation was not detected (N/N)**

**Legend:** N/N = wild-type genotype. N/P = carrier of the mutation. P/P = mutated genotype (individual will be most probably affected with the disease). (N = negative, P = positive)

**Explanation**

Presence or absence of c.118G>A mutation in SOD1 gene causing degenerative myelopathy in many canine breeds was tested. This mutation is sometimes referred to as SOD1A. Affected dogs have progressive loss of movement and gradual worsening of the condition up to complete paralysis. The age of disease onset and symptoms severity vary among the breeds.

Mutation SOD1A is inherited as an autosomal recessive trait. That means the disease affects dogs with P/P genotype only. The dogs with N/P genotype are considered carriers of the disease (heterozygotes). In offspring of two heterozygous animals following genotype distribution can be expected: 25 % N/N (healthy non-carriers), 25 % P/P (affected), and 50 % N/P (healthy carriers).

The test does not exclude existence of another, nowadays unknown, mutation which can cause DM. In Bernese Mountain Dogs, there has been identified also SOD1B mutation responsible for DM - this test does not refer about SOD1B.

Analysis was performed by the partner laboratory. Genomia guarantees the quality of its partner's services.

Method: SOP175-DM, real-time PCR-ASA

Report date: 25.04.2019

Responsible person: Mgr. Martina Šafrová, Laboratory Manager



Genomia s.r.o., Janáčkova 51, 32300 Plzeň, Czech Republic  
www.genomia.cz, laborator@genomia.cz, tel: +420 373 749 999