

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

Customer: Michal Glaser, Doubek 109, 251 01 Doubek, Czech Republic

Sample:

Sample: 23-15207

Date received: 05.06.2023

Sample type: buccal swab

Information provided by the customer

Name: Emilka z Modrého království

Breed: Collie Smooth

Microchip: 900 085 001 644 611

Reg. number: CMKU/CK/2155/23

Date of birth: 19.4.2023

Sex: female

Date of sampling: 01.06.2023

The identity of the animal has been checked by MVDr. Pavel Mádr, CSc. KVL4735

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: SOPAgriseq_canine, ngs

Date of issue: 26.02.2025

Date of testing: 12.02.2025 - 26.02.2025

Approved by: Mgr. Martina Šafrová, Laboratory Manager



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