GENOMIA
genetic laboratory

Result certificate #012345

Detection of c.979G>A in CAT gene causing hypocatalasia in some dog breeds

Customer: Jan Novák, Dlouhá 1, 30000 Plzeň, Czech Republic
Sample:
Sample: 21-12345
Date received: 01.02.2021
Sample type: blood

Information provided by the customer
Name: Lassie DEMO
Breed: Plemeno
Tattoo number: 1392013
Microchip: 123 456 789 012 345
Reg. number: REGQ12345
Date of birth: 1.1.2020
Sex: female
Date of sampling: 01.02.2021
The identity of the animal has been checked.

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 mutation c.979G>A in CAT gene causing hypocatalasia in American Foxhound, Beagle, English Foxhound, Harrier, Poodle Miniature and Treeing Walker Coonhound was tested.

Hypocatalasia, or acatalasemia, is an inherited metabolic disease. It relates to reduced activity of the catalase enzyme that is commonly found in the red blood cells, in mucous membranes, in liver, muscles and skin. Its task is to protect the tissues from reactive oxygen species. The catalase deficiency leads to formation of ulcers and necrosis of soft tissues (also known as the gangrene). In dogs, this disease causes deep ulcers inside the mouth and periodontitis, particularly young dogs suffer from this disease.

Mutation that causes hypocatalasia in in Beagles and American Foxhounds is inherited autosomally recessively which means that the disease develops only in those dogs who inherit mutated allele from both parents; 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, 25 % P/P and 50 % N/P.

Method: SOPAgriseq_canine, ngs, accredited method

Date of issue: 06.02.2021
Date of testing: 01.02.2021 - 06.02.2021
Approved by: Mgr. Martina Šafrová, Laboratory Manager

verified and certified document
GENOMIA genetic laboratory

Genomia is accredited in compliance with ISO/IEC 17025:2018 under #1549
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