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Result certificate #012345

Detection of mutations in NPC1 gene causing Niemann-Pick disease in cats

Customer: Jan Novák, Dlouhá 1, 30000 Plzeň, Czech Republic
Sample:
Sample: 08-12346
Date received: 01.01.2008
Sample type: buccal swab

Information provided by the customer
Name: Madame Théophile DEMO
Breed: Persian cat
Date of birth: 31.12.1909
Reg. number: (CZ)ABCD EF 123/45/XYZ
Microchip: 123 456 789 012 345
Sex: female
Date of sampling: 01.01.2008
The identity of the animal has been checked.

Result: Mutation was detected in heterozygous status (N/P)

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.2864G>C and c.1322A>C mutations in NPC1 gene causing Niemann-Pick disease, type C1, in cats was examined. A disease characterized by impaired transport and metabolism of non-esterified cholesterol and sphingomyelin. Accumulation of these substances in lysosomes and endosomes causes progressive neurological dysfunction. Clinical manifestations are evident as early as 8-12 weeks of age.

Mutation that causes Niemann-Pick disease is inherited autosomally recessively which means that the disease develops only in those cats who inherit mutated allele from both parents; disease affects cats with P/P genotype only. The cats 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. The mutations are inherited independently, compound heterozygotes, i.e. carriers of both mutations, can also be affected.

Method: SOPAgriseq_feline, MPS

Date of issue: 06.01.2008
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Approved by: Mgr. Martina Šafrová, Laboratory Manager

verified and certified document
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