

Result certificate #012345

Detection of c.1930_1931del mutation in ABCB1 gene Multi-drug resistance 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: 123456789012345 Sex: female Date of sampling: 01.01.2008 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 c.1930_1931del mutation in ABCB1 gene causing Multi-drug resistance 1 (MDR1) in cats was tested. MDR1 results in a higher risk of adverse reactions to P-glycoprotein substrates such as ivermectin and macrocyclic lactones. These substances are commonly found in flea and tick preventive products for cats and dogs. Clinical manifestations are neurological and include central nervous system depression, ataxia, tremors, salivation, vomiting, dilated pupils, respiratory disturbances and, in severe cases, coma or death.

Mutation that causes MDR1 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.

Method: SOPAgriseq_feline, ngs

Date of issue: 06.01.2008 Date of testing: 12.06.2008 - 06.01.2008 Approved by: Mgr. Martina Šafrová, Laboratory Manager



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