

Detection of SLC6A3 gene variant related to propensity towards aggressive behaviour of Malinois

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: A22/A22

Explanation

Presence or absence of SLC6A3 gene variant related to propensity towards aggressive behaviour of Malinois was tested. In some dogs, seizures associated with aggressive behaviour with no recognizable trigger can occur. Seizure-associated aggressive behaviours have been described as episodic, unplanned, motiveless, unpredictable, out-of-the character of the dog concerned. The dogs that suffer from rage episodes get a glazed look in their eyes, show lack of response to any stimuli, and do not take any notice of its surrounding. The aggressive behaviour of a dog can also be caused by bad health condition, the way the dog has been raised and trained.

The aggression seizures relate to the dopamine transporter gene (SLC6A3), responsible for dopamine transport through presynaptic membrane into the neuron. Three polymorphisms were identified in SLC6A3 gene. Variant poly(A) insertion of 12 nucleotides (A22), that has been primarily found in Malinois, is associated with sudden and unpredictable behavioural changes. Further, an 18-nucleotide deletion variant (A0) has been found in many breeds. Variant A10 is present in Boxer breed.

In general, idiopathic aggression is mainly associated with genotype A22/A22. In individuals that carry at least one allele A22, so have a genotype A0/A22 or A10/A22, the unpredictable aggression may occur as well. The genotypes A0/A0, A0/A10 a A10/A10 are not associated with episodic aggression.

Method: SOPSOP171-SLC6A3, fragment analysis

Date of issue: 06.02.2021

Date of testing: 01.02.2021 - 06.02.2021

Approved by: Mgr. Martina Šafrová, Laboratory Manager



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