

Detection of c.939_940delTG mutation in
MSTN gene causing myostatin deficiency
in whippet dogs

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: Based on mutation examination genotype was determined MH/N

Explanation

Presence or absence of c.939_940delTG mutation in MSTN gene causing myostatin deficiency in whippet dogs was tested. Two base-pair deletion in the third exon of MSTN-gene is leading to a premature stop codon at amino acid 313. MSTN gene encodes synthesis of myostatin. Myostatin is a regulator of skeletal muscle growth. It controls the number of muscle fibres by regulation of the total number of myoblasts. In case the functional protein is absent, a greater quantity of muscle fibres (microfibriles) than needed is produced.

Dogs with MH/N result (heterozygotes) are more muscular than normal whippets and have higher athletic potential. Dogs with MH/MH result (mutant homozygotes), so-called bully whippets, are extremely unhealthy muscular dogs. Dogs with N/N result have standard muscularity. If two dogs carrying one mutation (MH/N) are mated, 25 % of the offspring in the litter are expected to be bully puppies.

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



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