

**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:** m/Mc (Mc ~ 38T)

### Explanation

Presence or absence of SINE insertion in SILV gene was tested. The insertion causes the inability of cells to produce normal eumelanin. The degree of expression in the phenotype is associated with the variable length of the inserted polyA sequence (a chain of repeating base pairs that is part of the SINE insertion). The longer the inserted polyA sequence is, the greater degree of merle expression in the phenotype can be observed.

Merle alleles:

- m non-merle (wild type, no SINE insertion)
- Mc cryptic merle (length of polyA 200 – 230 bp)
- Mc+ cryptic merle + (length of polyA 231 – 246 bp)
- Ma atypical merle (length of polyA 247 – 254 bp)
- Ma+ atypical merle + (length of polyA 255 – 264 bp)
- M merle (length of polyA 265 – 268 bp)
- Mh harlequin merle (length of polyA 269 – 280 bp)

There are 28 possible merle genotypes: m/m, m/Mc, Mc/Mc, Mc/Mc+, m/Mc+, Mc+/Mc+, m/Ma, Mc/Ma, Mc+/Ma, Ma/Ma, m/Ma+, Mc/Ma+, Mc+/Ma+, Ma/Ma+, Ma+/Ma+, m/M, Mc/M, Mc+/M, Ma/M, Ma+/M, M/M, m/Mh, Mc/Mh, Mc+/Mh, Ma/Mh, Ma+/Mh, M/Mh, Mh/Mh.

A total of 14 allelic combinations cause deletion of the pigment to white color: Mc+/Ma+, Ma/Ma+, Ma+/Ma+ Mc+/M, Ma/M, Ma+/M, M/M, m/Mh, Mc/Mh, Mc+/Mh, Ma/Mh, Ma+/Mh, M/Mh, Mh/Mh.

There is a risk of health problems with 8 allelic combinations: M/M, m/Mh, Mc/Mh, Mc+/Mh, Ma/Mh, Ma+/Mh, M/Mh, Mh/Mh.

The dog can also be a merle mosaic, i.e. can carry several types of merle alleles in its cells. The result lists all detected major and minor alleles in the tested sample. Minor alleles are shown in brackets [].

Method: SOP176-merle, fragment analysis

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Date of issue: 06.02.2021

Date of testing: 01.02.2021 - 06.02.2021

Approved by: Mgr. Martina Šafrová, Laboratory Manager

SAMPLE



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