

Detection of TYRP1 (locus B) canine gene variants influencing coat color in Australian Shepherds

**Customer:** Darina Šablíj, Nováková 972, 29301 Mladá Boleslav, Czech Republic

**Sample:**

Sample: 22-29646

Date received: 26.10.2022

Sample type: buccal swab

Information provided by the customer

**Name:** CAPTAIN AMERICA AT Mystic Fire

**Breed:** Australian Shepherd

Microchip: 203 098 100 577 554

Reg. number: CMKU/AUO/7703/21

Date of birth: 17.05.2021

Sex: male

Date of sampling: 21.10.2022

The identity of the animal has been checked by MVDr. Petra Orthová, KVL 4347

**Result:** B/b<sup>S</sup>

### Explanation

Presence of TYRP1 gene (locus B) variants c.991C>T (allele bs), c.1033\_1036delCCT (allele bd), c.121T>A (allele bc) and c.555T>G (allele baus) causing brown coat and nose color of Australian Shepherds was examined. It is a set of locus B (Brown) alleles. Wild type "non-brown" allele is called B.

- If the result is B/B the individual does not carry brown color.
- If the result is B/bc or B/bd, B/bs or B/baus the individual carries brown color.
- If the result is bc/bc or bd/bd or bs/bs or baus/baus the individual is brown colored.
- If the result contains two or more different b-alleles the individual could be either carrier of brown color without brown color phenotype (b-alleles are inherited from one parent only) or is brown colored (b-alleles are inherited from both parents). It is not possible to summarize locus B genotype without testing the parents.

Phenotype of b allele (brown color) is inherited as a autosomal recessive trait. This examination does not exclude existence of any unknown variant of TYRP1 gene causing brown coat and nose color. Final coat color is influenced also by other loci (A, E, D, K).

Method: SOPAgriseq\_canine, ngs

Date of issue: 20.12.2023

Date of testing: 08.12.2023 - 20.12.2023

Approved by: Mgr. Martina Šafrová, Laboratory Manager



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