

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

**Sample**

Sample: 08-12345  
Name: Lassie DEMO  
Breed: ---  
Tattoo number: 1392013  
Microchip: 123 456 789 012 345  
Reg. number: REGQ12345  
Date of birth: 31.12.1909  
Sex: female  
Date received: 25.11.2008  
Sample type: blood  
The identity of the animal has been checked.

**Customer**

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Result: B/b<sup>aus</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 an 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: SOP132-TYRP1,173-TYRP1, PCR-RFLP

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Responsible person: Mgr. Martina Šafrová, Laboratory Manager



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