

Detection of c.2420G>A variant of HPS3 gene causing cocoa coat color in French Bulldogs

**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: N/cocoa

**Explanation**

Presence or absence of c.2420G>A variant of HPS3 gene causing cocoa coat color in French Bulldogs was tested. This gene variant is inherited independently of locus B, alleles bc, bd, bs of the TYRP1 gene. The synthesis of the black eumelanin is only partially blocked by HPS3 variant in comparison to TYRP1 variant and so the resulting colour shade is dark brown (cocoa). Puppies with HPS3 variant are born brown and become dark brown with the age. Adult dogs are slightly darker than adult dogs with TYRP1 variant, however the resulting shade is also influenced by the genetic background and it is probably not possible to reliably distinguish these coat colours without genetic testing.

Variant of the HPS3 gene is inherited autosomally recessively. The dark brown color is visible in dogs with cocoa/cocoa genotype. Dogs with N/cocoa genotype are carriers of dark brown color. Dogs with N/N genotype do carry dark brown color.

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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Report verification code is: 12AB-CD34-GENO-MIA0-EFGH. You can verify report online at [www.genomia.cz](http://www.genomia.cz)

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