

TYROSINASE RELATED PROTEIN (TYRP1) LOCUS B

REPORT NO.: ZO2020/1089/0721/02

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 Kennel Name:
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Canine Name: TauTonga Bijongo
 Breed: Rhodesian Ridgeback
 Microchip No.: 953 010 003 500 930

Registration No.: ZA006387B19

Genetic Test: **TYROSINASE RELATED PROTEIN (TYRP1) LOCUS B**
 Result: c.121 Result c.991 Result c.1033 Result **Conclusion**
 BCbC BSBS BDDB **Bb**

TYROSINASE RELATED PROTEIN

The B locus or Tyrosinase Related Protein TYRP1 gene is associated with eumelanin production.

The B-locus described contains three mutations designated BS for SNP site c.991C>T, BC for SNP site c.121 T>A, BD for indel site c.1033_1036delCCT and BA for c.555T>G of the TYRP1 gene. bS, bC, bD and bA represent the recessive alleles, and bSbS, bCbC, bDbD and/or bA/bA genotypes are required to confer the liver/chocolate colour.

It is possible for a dog to have two b alleles and not be brown if the two b alleles were inherited from one parent only. Parents must be tested.

Schmutz et al 2002. TYRP1 and MC1R genotypes and their effects on coat color in dogs. Mammalian Genome 7, pp380-387 ; Schmutz and Berryere, 2007. Genes affecting coat colour and pattern in domestic dogs: a review. Animal Genetics 38, pp539-549 ; Jancuskova et al 2018. TYRP1: c.555T>G is a recurrent mutation found in Australian Shepherd and Miniature American Shepherd dogs. Animal Genetics 49, 496-501.

Sample Type: Whole Blood (EDTA)
 Extraction Method: DNA Extraction
 Test Type: Sanger Sequencing

BREEDING IMPLICATIONS

		Mutation			
		B ^S > b ^S	B ^C > b ^C	B ^D > b ^D	B ^A > b ^A
		c.991C>T	c.121 T>A	c.1033_1036delCCT	c.555T>G
Phenotype	BB	CC	TT	CCT/CCT	TT
	Bb	CT	TA	CCT/DEL	TG
	bb	TT	AA	DEL/DEL	GG

Disclaimer: This report does not disregard the existence of any unknown or rare variant of TYRP1 gene that may cause a liver/chocolate coat or nose. The final coat colour in many breeds is also influenced by other loci that are known/unknown.