

GOAT AGOUTI GENE POLYMORPHISM AND ITS ASSOCIATION WITH COAT COLOR IN INDIGENOUS TURKISH GOAT BREEDS

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Abstract. Agouti gene has an important effect on pigment synthesis in mammals. It encodes Agouti signaling protein, which stimulates the phaeomelanin synthesis resulting red, yellow coat color. In this study 120 animals from three indigenous Turkish goat breeds were genotyped for 423 G>T polymorphism in exon 4 of Agouti gene using PCR-RFLP method. Two alleles T and G were observed. GG genotype was absent in all breeds. No clear association could be found between coat color and alleles of 423 G>T polymorphism. The genetic diversity for the site analyzed in the study was found to be very low in all breeds. As a conclusion we may say that caprine Agouti gene and its association with coat phenotype should be studied further using new polymorphisms and in a greater number of breeds.

Keywords: Agouti gene, goat, coat color, polymorphism.