Characterisation of Diacylglycerol Acyltransferase 1 (DGAT1) Gene Polymorphism of Donkey (Equus Asinus) Populations in Thrace Region of Turkey

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Abstract

The aim of this study was to identify allelic and genotypic distribution of polymorphism in acyl CoA:diacylglycerol acyltransferase 1 (DGAT1) gene in Equus asinus populations in Thrace region of Turkey. DGAT1 is considered as an important genetic marker in milk yield and content at cattle. Lately, some studies were handled on goat and sheep to expose single nucleotide polymorphism (SNPs) that might effect on production traits. A total of 85 donkey samples from three different populations in Trace region of Turkey were used. DGAT1 gene (GenBank NW_014636647.1) was amplified and digested with EaeI restriction enzyme and the same gene region was sequenced. It was concluded that the association between DGAT1 gene polymorphism and production traits was required to evaluate in donkeys. Thus, DGAT1 gene could be used as molecular markers in milk content and yield in donkeys.

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Keywords: DGAT1, Donkey, PCR-RFLP, DNA Sequencing, Thrace Region of Turkey