

ABSTRACT

DETECTING CALPASTATIN GENE POLYMORPHISM WITH PCR-RFLP METHOD IN ÇİNE ÇAPARI AND KARYA SHEEP

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This study was carried out to determine Calpastatin gene polymorphism in native Çine Çaparı and synthetic Karya sheep. Calpastatin is an endogenous inhibitor of calpain. Calpastatin gene has a key role on meat tenderness after slaughter, and also has been known as candidate gene in muscle growth efficiency. Calpastatin gene located on 5th chromosome of sheep.

Randomly taken blood samples were collected from 97 Çine Çaparı and 90 Karya sheep raised in West Anatolia. Intron I from L domain of the ovine calpastatin gene was amplified by PCR to produce a 565 bp fragment. Then, PCR products were digested with restriction endonucleases enzyme MspI. Digested products were electrophoresed on agarose gel and visualized with gel documentation system. The MspI digestion of the PCR products produced fragments of 306 and 259 bp. Data analysis was done using PopGen32 software. In Karya sheep population MM, MN and NN genotype were identified with 0.296, 0.496 and 0.208 frequencies, M and N allele frequencies were identified with 0.544 and 0.456 respectively. In Çine Çaparı sheep population MM, MN and NN genotype were identified with 0.543, 0.388 and 0.069 frequencies, M and N allele frequencies were identified with 0.737 and 0.263, respectively.

Key words: Sheep, Çine Çaparı, Karya, Calpastatin, PCR-RFLP