

Polymorphism in Myostatin Gene and Its Association with Growth Traits in Kurdi Sheep of Northern Khorasan

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Abstract : Myostatin genes or factor 8 affecting on growth and making differentiation works (GDF8) as a moderator in the development of skeletal muscle inhibitor. If mutations occurs in the coding region of myostatin, alter its inhibitory role and the muscle growth is increased. In this study, blood samples were collected randomly from 60 Kurdish sheep in northern Khorasan and DNA extraction was performed using a modified salt. A fragment 337 bp from exon 3 myostatin gene and-specific primers by using a polymerase chain reaction (PCR) were amplified. In order to detect different forms of an allele at this locus HaeIII restriction enzymes and PCR-RFLP analysis were used. Band patterns clarification was performed using agarose gel electrophoresis. The frequency of genotypes mm, Mm, and MM, were respectively detected, 0, 0.15 and 0.85. The allele frequency for alleles m and M, were respectively, 0.07 and 0.93. The statistical analyses indicated that m allele was significantly associated with body weight. The results of this study suggest that the Myostatin gene possibly is a candidate gene that affects growth traits in Kurdish sheep.

Keywords : GDF8 gene, Kurdi Sheep of Northern Khorasan, polymorphism, weight traits

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