

Abstract :

One of the benefits of molecular genetics is to identify genes for production traits that are useful and profitable for selection as candidate genes. Myostatin genes or growth and differentiation factor 8 (GDF8) was played as a moderator in the development of skeletal muscle inhibitor. If mutations occur 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 58 Kurdi sheep in northern Khorasan and DNA extraction was performed using a modified salting-out. 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 0, 0.15 and 0.85, respectively. The allele frequency for alleles m and M, were 0.08 and 0.92, respectively, Expressing the existence of polymorphism in the race. Statistical analysis of the results showed, The Mm genotype could mean body weight at the age of three months, (approximately significant) and the six months increased significantly compared to the MM genotype. Therefore, it can be stated that the role of the m allele increases the phenotypic value of body weight among Kurdi sheep population in northern Khorasan and this locus can be considered as a candidate gene for growth traits.

Key words: Myostatin gene, Kordi Sheep of Northern Khorasan, Polymorphism, Weight traits.



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**Study on the Polymorphism in Myostatin
gene and its association with growth traits
in Kordi Sheep of Northern Khorasan**

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