

Study of polymorphism of *Myostatin* gene and its association with growth traits in Lori sheep

Abstract

Myostatin gene or growth and differentiation factor -8 inhibit the puberty and development of skeletal muscles and it could change the size of some muscles such as double muscle, if the mutation occurs. One of the most important indigenous sheep in Iran, Lori sheep, possess high genetic potential for meat production. Therefore, the study of some genes affecting meat production would be of utmost important in selection programs. A total of 50 Lori sheep have been randomly selected and blood sampling was done to investigate the polymorphism of Myostatin gene and its relation to some economical traits including birth weight, weaning weight and 6-month lambs weight. Genomic DNA was extracted by the salting-out method. DNA quantity and quality was estimated by using the OD 260/280 absorbance ratio and agarose electrophoresis. The specific primers were designed to assess the presence of potential polymorphism and then target area was amplified. After confirmation of 373 bp fragment from exon 3 of Myostatin gene on the Agarose gel, the genotype determination was performed using restriction enzyme *HaeIII*. The results showed that the Mm and mm genotypes were detected in the samples. The frequency of M and m alleles was 8.75 % and 91.25 %, respectively. No significant relationship was observed between genotypes of Myostatin gene and growth traits, except of the birth weight. In conclusion, the Myostatin locus could not considered as a promising marker for growth traits in Lori sheep.

Key words: Myostatin, Lori sheep, Polymorphism, Heterozygosity.



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