Abstract

Insulin-like grow factor 1 (IGF-1) is a polypeptide with similar molecular structure to insulin. IGF-1 is produced primarily by the liver as an endocrine hormone, that plays an important role in physiological processes like growth, reproduction, lactation and immune system. The IGF-1 gene is a candidate gene for marker-assisted selection strategies. This gene is located on chromosome 5 in cattle. The purpose of the study was detected of IGF-1 gene polymorphism in Sistani cattle population. Blood samples were collected from cervical vien. 53 of Sistani cattle. DNA was extracted of whole bloode with using modified salting-out method. A 249 bp length fragment in exon 1 of IGF-1 gene was amplified by polymorphism chain reaction using specific primer pairs. Genotyping of each sample was performed using restriction enzyme SnaBI and electrophoresed on 3% agarose gel. Two alleles of A and B were detected with the frequency of 0.25 and 0.75 , respectively. The three genotypes of AA, AB and BB were detected with the frequency of 0.057, 0.396 and 0.547, respectively. Expressing the existence of polymorphism in the race Sistani. Analysis associate of the studied genotypes status and growth traits and cyclical weight gain from birth to first year showed significant effects and Individuals heterozygous genotypes in most traits were better than others.

Key words: IGF1, IGF1/*Sna*BI, Single nucleotide polymorphism, Growth traits, Sistani cattle, Iranian native cattle.

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Effects of polymorphism in IGF-1 gene on growth traits in Sistani cattle

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