

Association of the Polymorphism BMPR1B gene exon 6 with litter size in Sanjabi, Ghezel and Makui sheep by PCR –SSCP technique

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Received: 14.9.2019

Accepted: 12.04.2020

Abstract

The bone morphogenetic protein receptor gene (BMPR1B) is one of the major affect genes that plays an important role in increasing the rate of ovulation in sheep. In this study, Blood samples were collected from 100 sheep of Sanjabi in Mehregan breeding station in Kermanshah province, 60 sheep Ghezel and 40 Makui breeding station of Urmia University. DNA was extracted, using extraction kit of Sinnagen co. After DNA extraction specific primers used for amplification of 190 bp fragment of Exon 6 BMPR1B gene. Then single strand conformation polymorphism (SSCP) of PCR products was performed and genotypic patterns were obtained using acrylamid gel and silver staining. The results showed that the strips appearing on the acrylamide gel in two Sanjabi and Ghezel breeds were polymorphic and in the Makavi breed in a shape. Three different banding patterns in samples 1, 2 and 3 for Sanjabi breed 49.27% ,36.23% and 14.49% respectively, Three different band pattern The frequency were 1, 2 and 3 for Ghezel breed 55.55% ,33.33%. and 11.11% respectively, The association of observed patterns on the multiplicity trait was significant in Sanjabi and Ghezel breed ($P < 0.05$). The results showed that this polymorphism in Sanjabi and Ghezel sheep could be used as a marker for twin traits.

Key words: Twin traits, BMPR1B gene, Sheep, PCR- SSCP

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