

عنوان مقاله:

Single nucleotide polymorphism of the lactoferrin gene and its association with milk production and reproduction traits in Iranian Holstein cattle

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خلاصه مقاله:

Bovine lactoferrin (LTF) is a member of the transferrin family of iron-binding proteins. This protein is present in a wide variety of biological fluids and shows important physiological functions in body. In this study, 404 blood samples were collected from Holstein dairy farms in Iran. A 301 bp fragment of intron 6 in bovine LTF gene was amplified and the animals were genotyped using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method. Two alleles of bovine LTF, A and B, were identified in the studied population. The frequency of the A and B (mutant type) alleles were estimated to be 0.803 and 0.197, respectively. The alleles controlled the occurrence of two genotypes, AA and AB, with frequency of 0.606 and 0.393, respectively. GLM (Generalized linear Model) analysis was applied to evaluate the association of bovine LTF with milk production (305-day milk yield, fat and protein percentage) and reproductive traits (pregnancy length (d), milking days (d) and somatic cell score, SCS). It was found that AB cows showed significantly higher ($P < 0.05$) fat percentage and SCS in milk in comparison with AA genotype. Other traits did not show any significant difference. Regarding the association revealed, the SNP has the potential to be considered as a marker in marker-assisted selection.

کلمات کلیدی:

dairy Holstein, LTF gene, polymorphism, milk production, reproduction traits

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