

## **Study of relationship between alpha- S1 gene polymorphism of casein and casein milk production in Najdi goat population in Khuzestan province**

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### **ABSTRACT**

The purpose of this study was to investigate the association between polymorphisms of alpha-S1 casein and casein milk produced in Najdi goat population in Khuzestan province. 85 animals used for detecting the presence of polymorphism of goat  $\alpha$  s1 casein. Present result showed that 4 allele (a, b, c, d) and 9 genotype (aa, bb, cc, dd, ac, ad, bc, bd, cd) were detected. In total of animals only 18 goats was in lactation period, which studied for determination of casein in their milk. Measurements of casein were carried out in Hydrochloric acid 0/1 normal precipitation method. After genotyping of 18 animals and proof polymorphism of alpha s1 casein gene, to investigate the relationship between genotype and casein production, completely randomized design was used and to compare means Duncan test was used. The results of these tests showed that the casein in milk production in goats with genotypes has significant difference ( $P < 0/05$ ). Milk from animals with genotype aa and ac had the highest rates of casein. In this study genotype dd showed the lowest casein. Genetic polymorphism of alpha S-1 locus has important effects on protein and casein in milk. Assessment of alpha S-1 casein in milk producing animals was similar results to casein in milk. Animal selected for alleles associated with levels of alpha S1 casein could lead to the development of milk components, particularly protein quality.

**Key Words:** Najdi goat, Alfa s1 casein, Polymorphism, Milk and Casein



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