

Investigation Major Histocompatibility Complex in Sistan Native Chickens and one commercial strain

ABSTRACT

The aim of this research was to study of two alleles BF2*13, BF2*21 of BF2 gene in Class I MHC in two population at Sistan region (two population Khazak and Dashtiari) and one commercial strain Ross 308. MHC is a gene cluster that play regulation role in immune system. Many experiments showed association between the gene cluster and resistance and sensitiveness against different disease and, also productivity traits. BF2 gene is among associated loci. In the research, blood samples collected randomly from 60 Ross chicken and 72 native chickens (37 Khazak and 35 Dashtiari chickens). After DNA extraction from blood samples with standard kit, the quantitative and quality of DNA were determined by gel agarose 1%. Next stage would be desined appropriate primers for BF2*13 and BF2*21 alleles. Using PCR this alleles were extracted and PCR product observed by gel electrophoresis which were 52bp and 197 bp, respectively. Frequency samples contain BF2*13 allele in Ross 308 strain was 45% and in two populations Khazak and Dashtiari observed 75.6 and 22.8%, respectively. Also frequency samples contain BF2*21 allele in strain was Ross 308, 35% and in two populations Khazak and Dashtiari were 45.9 and 34.2%, respectively. To respect that BF2*13 allele have direct correlation with sensitivity to chicken in flu, and so results showed that frequency samples contain this allele in Dashtiari is low. In other hand, in Khazak population that frequency samples contain BF2*13 allele is high, allele frequency samples contain BF2*21 allele that associated with resistance to Marek disease and in flu and IBD and some productive traits, is relative property and then animal breeders could be use allele frequency of these alleles in breeding programming.

Key words: Major Histocompatibility Complex, BF2*13, BF2*21, Native chickens, Commercial Strain.



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Title

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