

عنوان مقاله:

PCR-RFLP Analysis of Insulin-Like Growth Factor ۲ Gene Polymorphisms in Two Commercial Broiler Chicken Strains (Cobb ۵۰۰ and Hubbard F-۱۵) and Their Associations with Performance Traits

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خلاصه مقاله:

The present research aimed to study the polymorphisms of the chicken insulin-like growth factor ۲ (IGF۲) in two commercial broiler breeds (Cobb ۵۰۰ and Hubbard F-۱۵). In total, ۳۰۰ avian blood samples were obtained. The genomic DNA was isolated using a fast salt-extraction technique. Moreover, polymerase chain reaction (PCR) was used to amplify ۱۱۴۶ bp fragments of the gene. The amplified fragments were subjected to restriction enzyme digestion using the HinfI endonuclease enzyme, and the digested products were separated on a ۲% agarose gel. The findings indicated that there were two alleles T and C for the target locus, with frequencies of ۷۳.۳% and ۲۶.۷%, respectively. Three distinct genotype variations, TT, TC, and CC, were found, with genotype frequencies of ۵۹.۱%, ۲۸.۴%, and ۱۲.۵%, respectively. A test based on actual and anticipated frequencies of various genotypic variances of the IGF۲ gene revealed that the divergence from Hardy-Weinberg equilibrium was not significant ($P \leq 0.01$) in commercial broiler breeds (Cobb ۵۰۰ and Hubbard F-۱۵) chickens. In addition, it was found that birds with genotype TC had a greater body mass at ۸ weeks of age, compared to those with genotypes TT and CC. It was determined that the IGF۲ gene exhibited a significant degree of variability and might be regarded as a possible genetic marker in selection and breeding programs for poultry.

کلمات کلیدی:

IGF۲, Polymorphism, PCR, Chicken

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