

Polymorphism of Insulin-Like Growth Factor I Gene among Chicken Breeds in Egypt

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The insulin-like growth factor I (IGF-I) regulates growth, protein synthesis, and cell proliferation and differentiation in vertebrates. Polymorphisms of IGF-I gene transcripts of three breeds of chicken were assessed. The associations of these polymorphisms with the growth rate of the studied breeds were also evaluated. Total RNA was isolated from chicken livers, and the IGF-I gene was amplified from each breed RNA by RT-PCR using specific primers flanking a certain region of the gene. The amplified RT-PCR products were formed to identify the transcripts and to correlate them to the phenotype of growth, by performing single stranded conformation polymorphism (SSCP) analysis for genotype identification. In this report, we describe how SSCP analysis of RT-PCR products can be used to evaluate the transcript expression pattern of avian IGF-I polymorphism, and their effect on the growth traits of chickens.

Key words: IGF-I Gene, Polymorphism, Chicken Breeds