

Abstract

Despite extensive advances in establishment of various poultry lines with different characteristics, there is still a significant variation in growth rates among and between commercial strains. Besides, the underlying complex mechanisms those are involved in the regulation of the growth rate within and between chicken populations have not yet adequately understood. In this regard, the intestinal nutrient transporters have shown to be critical for regulation of both nutrient absorption as well as growth performance of various types of mammals and birds through time. Therefore, the aim of this study was to comparison of the expression levels GLUT-2 in Rice straw commercial chickens with high and low growth rate. For this purpose, 107 Ross broiler chicken were raised under standard condition for 8 weeks. The chicken's weights, feed consumption were recorded weekly starting on days 0, 7, 14, 21, 28, 35 and 45 and feed conversion ratio calculated based on the obtained data on growth and feed consumption. At the end of the growth period, two birds from each group were randomly selected, slaughtered and their internal organs including the liver, spleen and intestine excised, weighed and analyzed for weight uniformity. Intestinal Total RNA was isolated using RiboEx (Genall, South Korea) and was converted into cDNA with the Hyper Script RT master mix (GenAll) in accordance with the manufacturer's instructions. Relative expression of GLUT-2 transcripts in the duodenum of experimental groups was compared by quantitative RT-PCR using b-actin as an internal control. Finally, all data was analysed by analysis of variance, using the JMP software version 11; results were compared between groups using Student's t test. There is a no significant difference between the mean of experimental groups in terms of expression of GLUT-2 gene, immunological index, relative weight of analysed organs and feed conversion ratio ($p < 0.05$). Based on the result of this experiment, none of evaluated parameter could be useful to elucidate the reason of growth variation within analysed population.

Key words: Gene expression, GLUT-2, Growth traits, Feed conversion ratio



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**Analysis of expression pattern of *GLUT-2* gene in Ross 308
strain with high and low growth rate**

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