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维生素D₃对丝毛乌鸡组织白细胞介素2和白细胞介素18基因相对表达量的影响

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Effects of Vitamin D₃ on the Relative Expression Levels of Interleukin 2 and Interleukin 18 Genes in Tissues of Silky Fowls

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摘要 本试验旨在研究维生素D₃对丝毛乌鸡组织白细胞介素2(IL-2)和白细胞介素18(IL-18)基因相对表达量的影响。试验选用只丝毛乌鸡,随机分为5个处理,每个处理4个重复,每个重复6只鸡。对照处理饲喂基础饲料,各试验处理分别饲喂在基础饲料中添800、1 600、3 200和6 400 IU/kg维生素D₃的试验饲料。常规笼养6周。采集胸腺、十二指肠、空肠、回肠、盲肠和法氏囊,检测IL-2和IL-18基因相对表达量。结果表明:6 400 IU/kg的维生素D₃上调了IL-2基因在十二指肠、法氏囊和盲肠组织中的相对表达量,而未见其在胸腺、空肠和回肠组织中的相对表达量上调;6 400 IU/kg的维生素D₃上调了IL-18基因在丝毛乌鸡胸腺、回肠、盲肠和法氏囊组织中的相对表达量。结果提示,饲料维生素D₃添加水平与丝毛乌鸡体内IL-2和IL-18基因相对表达量相关,但作用存在组织差异。

关键词: 丝毛乌鸡 维生素D₃ 白细胞介素

Abstract: The aim of this experiment was to research the effects of vitamin D₃ on the relative expression level of interleukin 2 (IL-2) and interleukin 18 (IL-18) genes in tissues of Silky fowls. One hundred and twenty Silky fowls were randomly allotted to 5 treatments with 4 replicates in each treatment and 6 fowls per replicate. Fowls in control treatment were fed a basal diet, while those in experimental treatments were fed the basal diet supplemented with 800, 1 600, 3 200 and 6 400 IU/kg vitamin D₃, respectively. Fowls were fed for 6 weeks in cages. The tissues (thymus, duodenum, jejunum, ileum, cecum and bursa of Fabricius) were collected for the analysis of relative expression levels of IL-2 and IL-18 genes. The results showed as follows: 6 400 IU/kg vitamin D₃ up-regulated the relative expression level of IL-2 gene in tissues of duodenum, bursa of Fabricius and cecum, but no regulation was found in tissues of thymus, jejunum and ileum; 6 400 IU/kg vitamin D₃ up-regulated the relative expression level of IL-18 gene in tissues of thymus, ileum, cecum and bursa of Fabricius of Silky fowls. The results indicate that dietary supplemental level of vitamin D₃ can affect the relative expression levels of IL-2 and IL-18 genes in Silky fowls, but the effects are differ in different tissues.

Keywords: Silky fowl, vitamin D₃, interleukin

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