

研究报告

猪CAST基因多态性与肌纤维组织学特性及屠宰性状的相关性分析

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摘要

采用3种限制性核酸内切酶对45头金皮(金华×皮特兰)F₂代猪钙蛋白酶抑制蛋白基因(CAST)的第6外显子和第7外显子之间的片段进行了PCR-RFLP分析, 结果显示在第6内含子内均检测到Msp I、Hinf I 和Rsa I 酶切多态性。根据酶切结果将CAST基因分为3种基因型(AACCEE、BBDDFF、ABCDE F), 其基因型频率分别为0.1778, 0.2222, 0.6000。对背最长肌做连续性石蜡切片, 分别采用苏木精-伊红和肌球蛋白重链免疫组织化学方法染色并拍照, ImageJ软件统计肌纤维横截面积、密度、直径及MHC I 型肌纤维的比例。采用SPSS程序分析了CAST不同基因型对金皮F₂代猪肌纤维组织学特性和屠宰性状的影响。结果表明: BBDDFF基因型个体的肌纤维横截面积和眼肌面积显著地高于ABCDE F基因型个体的肌纤维横截面积和眼肌面积(P < 0.05)。

关键词 [金皮F2代猪](#) [CAST基因](#) [肌纤维](#) [免疫组织化学](#)

分类号

Correlation between porcine CAST gene polymorphism with muscle fiber histological traits and carcass characteristics

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Abstract

<P>Three polymorphisms were identified in the sixth intron of the CAST gene by PCR-RFLP using enzymes Msp I, Hinf I and Rsa I in 45 Jinpi F₂ pigs. However, only three genotypes AACCEE, BBDDFF, and ABCDE F were detected in those pigs and the genotype frequencies were 0.1778, 0.2222 and 0.6000, respectively. Longissimus dorsi muscles were moved for paraffin serial sections and stained with hematoxylin-eosin or myosin heavy chain (MHC) by immunohistochemistry respectively. Fiber cross-sectional area, fiber density, fiber diameter, the rate of MHC type I fiber and the carcass characteristics were recorded. Correlation analysis showed that the skeletal muscle fiber area and the eye muscle area of the BBDDFF individual were significantly higher than those of the ABCDE F individual (P<0.05).</P>

Key words [Jinpi F2 pig](#) [Calpastatin gene](#) [muscle fiber](#) [immunohistochemistry](#)

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