

畜牧—研究报告

猪TLR6基因Msp I多态性与生长性状相关性研究

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摘要:

本研究旨在阐明猪TLR6基因片段多态性及其与生长性状之间的关系,利用PCR-RFLPs技术检测405头猪TLR6基因片段Msp I酶切位点的多态性,结果表明:该位点具有两种等位基因T/C,在大围子猪、沙子岭猪、宁乡猪和黔邵花猪各群体中的频率分别为0.136/0.864、0.189/0.811、0.186/0.814、0.281/0.719。C等位基因是群体中的优势等位基因,该基因座处于Hardy-Weinberg平衡状态。利用最小二乘分析研究了该多态位点对初生体质量、45日龄体质量、60日龄体质量、4月龄体质量、6月龄体质量、6月龄体高、6月龄体长、6月龄胸围等生长性状的影响。结果显示:TT基因型个体对4月龄体质量性状影响达极显著水平(P<0.01);TT基因型4月龄体质量比CC型高25.92%;对45日龄体质量、6月龄体质量、体长和胸围性状影响达显著水平(P<0.05),TT基因型45日龄体质量比CC型高12.46%、6月龄体质量高7.20%、6月龄体长高7.62%、6月龄胸围高7.24%。由此可知,猪TLR6基因不同基因型对生长性状有着重要的影响,是猪育种应用中的一个潜在遗传标记。

关键词: 生长性状

Associations Between Msp I Polymorphism of TLR6 Gene and Growth Traits of Pigs

Abstract:

The associations between SNPs in the porcine Toll-like receptors 6(TLR6) gene and growth traits of pigs were reported in this study. Polymorphism of a segment of TLR6 gene was detected in 405 pigs by PCR-RFLP. A Msp I RFLP was detected in the sequence and the polymorphic locus is common in all detected groups, which were Daweizi Pigs, Shaziling Pigs, Ningxian Pigs and Qianshao spotted Pigs. Alleles detected in the sequence were allele T and C with frequencies of 0.136 and 0.864, 0.189 and 0.811, 0.186 and 0.814, 0.281 and 0.719, respectively. This polymorphic locus of TLR6 gene was at Hardy-Weinberg equilibrium (P>0.05). The relationship between the founded Msp I RFLP in the sequence and birth weight, body weight at 45 days, body weight at 60 days, body weight at 4 months, body weight at 6 months, body length at 6 months, Withers height at 6 months and circumference at 6 months was analyzed by least square analysis. No significant different between Msp I RFLP and birth weight, body weight at 60 days and Withers height 6 months were founded in this study, but significant associations were found between TT genotype with body weight at 4 months (P<0.01) and body weight at 45 days, body weight at 6 months, body length at 6 months and circumference at 6 months(P<0.05), The animals with genotype TT showed 25.92% increase in body weight at 4 months (P < 0.01), 12.46%, 7.20%, 7.62% and 7.24% increase in body weight at 45 days, body weight at 6 months, body length at 6 months and circumference compared with genotype CC (P < 0.05), respectively. Therefore, it could be seen that porcine TLR6 genotypes had significant influence on growth traits, this SNP might be considered as a potential genetic marker for selection.

Keywords: growth traits

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