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研究报告

*IGF1*调控区微卫星座位对金华猪生长性能的影响

赵晓枫[1], 徐宁迎[1], 胡晓湘[2], 李宁[2]

1. 浙江大学动物科学学院, 杭州 310029;
2. 中国农业大学农业与生物技术国家重点实验室, 北京 100094

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摘要

类胰岛素生长因子*IGF1*及其相关结合蛋白和跨膜受体*IGFR*在哺乳动物的生长过程中扮演着重要角色。本文基于最小二乘法分析了*IGF1* 5′ 调控序列微卫星座位对金华猪初生重, 断奶重, 120日龄重, 180日龄重和出生窝重等生长性状的影响。结果表明: 286/286基因型对金华猪初生重有显著影响($P<0.05$); 280/286基因型对金华猪开产后出生窝重影响显著($P<0.05$), 进一步通过等位基因平均替代效应分析发现274 bp和286 bp等位基因有利于提高初生重, 280 bp等位基因有利于第二胎出生窝重的提高。同时通过相关性分析发现金华猪开产母猪出生窝重、总产仔数和产活仔数间的相关性极显著($P<0.01$), 因此出生窝重的增加有利于提高金华猪的产仔性能。

关键词 金华猪 微卫星 IGF1 生长性状

分类号

Effects of microsatellite in the regulatory region of *IGF1* on growth traits in Jinhua swine

ZHAO Xiao-Feng[1], XU Ning-Ying[1], HU Xiao-Xiang[2], LI Ning[2]

1. *College of Animal Science, Zhejiang University, Hangzhou* 310029, *China*;
2. *State Key Laboratory for Agrobiotechnology, China Agriculture University, Beijing* 100094, *China*

Abstract

<P>Insulin-like growth factor 1 (<EM>IGF1</EM>) and its associated binding proteins and transmembrane receptors (<EM>IGFR</EM>) play an important role in the physiologic process of mammalian growth. The objectives of present work were to estimate the effects of microsatellite markers located in the 5′-regulatory region of the <EM>IGF1</EM> on birth weight (BW), weaning weight (WW), weight at the 120th day, the 180th day and litter weight at birth (LWB) by the least square method in Jinhua pig. Significant effect was found for IGF1 genotype on BW (<EM>P</EM><0.05), with positive effects associated with the 286/286 genotype, and 280/286 genotype on LWB in second parity (<EM>P</EM><0.05). Furthermore, according to analysis of allele average substitution effect, alleles 274 bp and 286 bp was favourable for BW increase, allele 280 bp was favourable for LWB increase in the second parity. By correlation analysis, total number of birth, number of birth alive and LWB of the second parity in jin hua pig had highly significant correlation (P<0.01), therefore increasing LWB of the second parity could improve litter performance of Jinhua pig.</P>

Key words Jinhua pig microsatellite IGF1 growth trait

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通讯作者 徐宁迎 nyxu@zju.edu.cn