

鸡瘦蛋白受体(OBR)基因外显子9单核苷酸多态性分析 Single Nucleotide Polymorphism Analysis in Chicken Leptin Receptor Exon 9

顾志良1, 赵建国1, 李辉1, 孟和1, 王启贵1, 王清华1, 朱大海2 GU Zhi-liang1, ZHAO Jian-guo1, LI Hui1, MENG He1, WANG Qi-gui1, WANG Qing-hual, ZHU Da-hai2

1.东北农业大学动物科技学院, 哈尔滨 150030; 2.哈尔滨工业大学生命科学与工程系, 哈尔滨 150001 1.College of Animal Science & Technology,Northeast Agricultural University,Harbin 150030,China; 2.Department of Life Science & Engineering,Harbin Institute of Technology,Harbin 150001,China

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摘要 瘦蛋白受体属于I类细胞因子超家族受体,其在瘦蛋白的信号转导中起着关键的作用。本研究根据瘦蛋白受体基因外显子9的序列设计引物,用PCR-SSCP的方法对高脂系(fatness line,FL)、低脂系(leanness line,LL)、北京油鸡、白耳鸡、石歧杂、矮小黄鸡、小型黄鸡、惠阳胡须鸡、隐性白羽鸡和海兰蛋鸡等品种(系)进行了单核苷酸多态性分析,并检测到了多态性。对两种纯合子片段克隆和测序,结果表明在编码区的1167位碱基发生了突变,由C突变为A,但是编码的氨基酸并没有发生改变。经独立性检验,基因型频率和基因频率分布与品种有关,北京油鸡的AA基因型频率显著高于其他品种;高脂系中A基因频率显著高于低脂系。

Abstract:Leptin receptor is a type I cytokine super family member and plays an important role in leptin functioning signal transduction.This study was designed to investigate the single nucleotide polymorphism (SNP) of OBR gene in various breeds,including Fatness Line (FL),Leanness Line (LL),Beijing Youji,Baierji,Shiqiza,Dwarf Yellow Chickens,Mini Yellow Chickens,Huiyang Huxuji,Recessive White Chickens and Hyline Layer.The primers for exon 9 in OBR gene were designed from the database of chicken genomic sequence and the SNPs were detected by PCR-SSCP method.One SNP (C/A at 1167 in cds) was found among individuals within all breeds.However,the amino acid was not changed because it was a silence mutation.The result of population genetics analyses showed that the frequency of AA genotype in Beijing Youji was significantly higher than that in other lines.Also,the frequency of A allele in FL was significantly higher than that in LL.

关键词 鸡 瘦蛋白受体基因 单核苷酸多态性 **Key words** chicken leptin receptor gene single nucleotide polymorphism

分类号

扩展功能

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