

研究论文

比格犬MC4R基因多态性与体重相关性的研究

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摘要 为了分析比格犬黑素皮质素受体-4基因多态性与犬体重的关系, 根据犬MC4R基因DNA外显子序列, 设计MC4R基因特异PCR引物1对, 犬DNA经PCR扩增, 克隆和测序, 寻找和确定犬MC4R基因的多态性位点, 分析多态性与犬体重的关系。结果在比格犬MC4R基因中发现2处单碱基缺失突变, 1个单碱基颠换变异, 存在Psh A I 酶切位点, 并基于PshA I 酶切位点建立了PCR-RFLP技术。统计分析显示犬MC4R基因型与体重显著相关, 可以考虑将MC4R基因作为犬体重的候选基因。

关键词 [犬](#) [MC4R基因](#) [多态性](#) [体重](#)

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Relationship Between MC4R Gene Polymorphism and Body Weight Trait in Beagle Dogs

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Abstract

The relationship between MC4R gene polymorphism and body weight in beagle dogs was analyzed. Using gene-specific primers based on canine MC4R exonic sequences a gene fragment was PCR amplified, cloned and sequenced to identify potential polymorphisms. The relationship between a MC4R gene polymorphism detected by PCR-RFLP and canine body weight was analyzed. Three variants were found in beagle dog MC4R DNA sequence, of which two were deletions and one was a transversion which created a PshA I site that could be detected by PCR-RFLP. A statistically significant relationship between this polymorphism and body weight was found. MC4R gene could be a candidate modifier gene for canine body weight.

Key words [canine](#) [MC4R gene](#) [polymorphism](#) [body weight](#)

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