

研究报告

检测绵羊BMPR-IB基因多态性寡核苷酸芯片的制备

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摘要 FecB基因是控制中国美利奴羊排卵率和产羔数的主效基因, 由于A746G的点突变而导致绵羊表型的变化。本研究的目的在于根据FecB基因的多态性, 制备寡核苷酸芯片检测绵羊FecB基因的单核苷酸多态性(SNP), 设计六条特异性的探针, 用基因芯片点样仪将探针点样到醛基修饰的载玻片上, 采集绵羊的血液样本, 在芯片反应舱中, 检测FecB基因A746G点突变, 设计对应的软件进行判读, 分析检测结果, 与PCR-RFLP检测结果完全符合, 证明制备的寡核苷酸芯片可以并行、准确而高效地检测FecB基因的多态性, 能够作为分子标记辅助选育多胎绵羊的一种合适的检测技术。

关键词 [寡核苷酸芯片](#) [BMPR-IB 基因](#) [基因多态性](#) [中国美利奴羊](#)

分类号

The preparation of oligonucleotide chips for detecting BMPR-IB gene polymorphism in sheep

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Abstract

<P>BMPR-IB gene increases ovulation rate and litter size as a major gene in Chinese Merino, because of 746 A to G mutation. The aim of this study was to make oligonucleotide chips to determine single nucleotide polymorphism (SNP) in BMPR-IB gene. The oligonucleotide chips were manufactured by using six sequence-specific oligonucleotide probes derived from polymorphic regions in the mutation and spotting the probes by microarrayer onto the aldehyde modified glass slides. The 746 A to G mutation was detected with ovine blood in reaction cells of chips. The results were identified by designed the Arraydoctor 2.0 software, in accordance with those of restriction fragment length polymorphisms (RFLP). The results showed the oligonucleotide chips are a parallel, accurate and effective way for screening prolificacy in molecular-assisted selection(MAS)of sheep. </P>

Key words [oligonucleotide chips](#) [BMPR-IB gene](#) [gene polymorphisms](#) [Chinese Merino](#)

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