

技术与方法

一种新的分子标记方法—随机微卫星扩增多态DNA (RMAPD)

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收稿日期 2004-11-20 修回日期 2004-11-28 网络版发布日期 接受日期

摘要 随机微卫星扩增多态DNA (RMAPD) 是利用随机引物和微卫星的上游或下游引物一起作为该扩增的引物, 在Taq DNA聚合酶、MgCl₂、dNTPs和模板DNA等共同作用下进行PCR扩增的一种新型分子标记方法。其核心是RMAPD引物的有效性问题。通过对西农萨能奶山羊群体RMAPD电泳检测、数据统计分析及验证实验等证明RMAPD的引物是有效的。通过与微卫星和RAPD标记比较, 发现RMAPD标记在扩增引物、扩增程序和重复性等方面区别于微卫星和RAPD标记; 它是RAPD标记的一种广义的延伸, 但又不完全等同于RAPD标记。因此, 确定RMAPD是一种新的分子标记方法。该方法也具有DNA标记的特点, 在群体遗传结构和亲缘关系分析以及标记辅助选择等遗传育种领域具有广阔的应用前景。

关键词 [RMAPD](#); [RAPD](#); [微卫星标记](#); [RAMP](#); [分子标记](#)

分类号 [Q342](#)

A New Method of Molecular Marker—RMAPD

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Abstract

Random microsatellite amplify polymorphic DNA (RMAPD) is a new method of molecular marker. It can reveal genome DNA polymorphisms of organism only when random primer and microsatellite forward or reverse primer are combined together as a pair of primers by the PCR reaction system with Taq DNA polymerase, MgCl₂, dNTPs and contemplate DNA. The core question of RMAPD is validity of the primers used. A lot of experiments of RMAPD in 69 Xinong Saanen dairy goats showed that RMAPD primers were effective. Comparison of RMAPD, microsatellite and RAPD markers demonstrated that RMAPD was different from each other in primers, amplification protocol and repetition. RMAPD is not equal to RAPD, but a extendable RAPD. Therefore, RMAPD is regarded as a new method of molecular marker. As it has many characteristics of DNA marker, RMAPD has a widest potential application in animal breeding and genetics, such as analysis of genetic structure and relationship and MAS.

Key words [RMAPD](#) [RAPD](#) [microsatellite](#) [random amplify microsatellite polymorphisms\(RAMP\)](#) [molecular marker](#)

DOI:

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