

研究报告

## 花生黄曲霉侵染抗性的SCAR标记

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收稿日期 2005-9-16 修回日期 2006-1-9 网络版发布日期 2006-9-5 接受日期

**摘要** 利用与花生黄曲霉侵染抗性基因紧密连锁的AFLP标记“E45/M53-440”, 经PAGE凝胶电泳后回收、克隆、测序, 并根据测序结果设计PCR特异引物, 通过对PCR条件的优化, 成功地将AFLP标记“E45/M53-440”转化为实验结果稳定, 操作更简单的SCAR标记“AFs-412”, 标记与花生黄曲霉侵染抗性间的遗传距离为6.5 cM。利用获得的SCAR标记对抗、感黄曲霉的花生种质资源进行了分子鉴定, 结果表明标记与抗性鉴定结果具有较高的一致性, 证实了该标记应用于研究群体之外的育种潜力。SCAR标记的建立为开展花生黄曲霉侵染抗性的标记辅助选择育种提供了简便实用的鉴定技术。

**关键词** [花生](#) [黄曲霉](#) [分子标记](#) [AFLP](#) [SCAR](#)

**分类号** [Q933](#)

## A SCAR Marker for Resistance to *Aspergillus flavus* in Peanut (*Arachis hypogaea* L.)

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### Abstract

<P>Aflatoxin contamination is an important constraint to peanut (<EM>Arachis hypogaea</EM> L.) industry worldwide. Genetic improvement for host resistance in peanut to fungal infection and aflatoxin (<EM>Aspergillus flavus</EM>) production is among the approaches for integrated management of the problem. However, the progress in peanut breeding for resistance to aflatoxin is slow due to various reasons, among which, lack of cost-effective method for resistance identification in breeding materials or segregating progenies has been encountered in most breeding programs. Hence there is a need to develop a rapid and reliable screening method for selecting <EM>A. flavus</EM> infection resistance in peanut. Here we report a SCAR (Sequence characterized Amplified Region) marker “AFs-412” converted from AFLP (amplified fragment length polymorphism) marker “E45/M53-440” which closely linked with resistance to <EM>A. flavus</EM> infection. Twenty peanut genotypes with resistance to infection of <EM>A. flavus</EM> were used to verify the reliability of the resistance markers, and high correlation between the molecular markers and the resistance result. The result shows that the potential of the markers which can be used in other resistant peanut genotypes to seed infection by <EM>Aspergillus flavus</EM>. </P>

**Key words** [peanut \(\*Arachis hypogaea\* L.\)](#) [Aspergillus flavus](#) [molecular marker](#) [AFLP](#) [SCAR](#)

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