



棉花学报 » 2011, Vol. 23 » Issue (2) :147-153 文章编号: 1002-7807(2011)02-0147-07

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棉花枯萎病菌AFLP分子标记体系的建立及初步应用

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Establishment and Application of AFLP Analysis System for *Fusarium oxysporum* f. sp. *vasinfectum*

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摘要

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摘要 建立并优化了基于HaeIII/PstI酶切的棉花枯萎病菌AFLP分析的最佳反应体系, 并从32对引物组合中筛选出适合该反应体系的引物组合3对。应用该技术对存在于我国的棉花枯萎病菌3号、7号和8号生理小种的标准菌株进行分析, 结果表明该技术能够有效地将这3个标准菌株区分开; 通过该体系对来自我国4个省的20个棉花枯萎病菌菌株进行分析, 其聚类分析结果表明在0.96 Dice相似系数水平上, 20个棉花枯萎病菌菌株与棉花枯萎病菌7号生理小种聚在一个类群内, 属于7号生理小种, 并且小种群内不同菌株间存在一定程度的遗传多样性。

关键词: 棉花枯萎病菌 AFLP 分子标记 优化 遗传多样性

Abstract: An amplified fragment length polymorphism(AFLP) analysis system was constructed by using *HaeIII*/PstI digested DNA to analyze different isolates of *Fusarium oxysporum* f. sp. *vasinfectum*. Three primer combinations were selected from 32 primer pairs and employed in the optimized AFLP system. Three reference strains representing physiological races 3, 7 and 8 of *F. oxysporum* f. sp. *vasinfectum* from China were characterized by the optimized AFLP system. Cluster analysis using data generated by AFLP makers showed the system could clearly separate all three *F. oxysporum* f. sp. *vasinfectum* races. AFLP analysis of 20 *F. oxysporum* f. sp. *vasinfectum* isolates from four provinces categorized all isolates into the race 7 group in high level of Dice similarity coefficients (0.96), and the genetic diversities were observed among different isolates in the same physiological group.

Keywords: *Fusarium oxysporum* f. sp. *vasinfectum* AFLP molecular marker optimization genetic diversity

收稿日期:2010-12-23;

基金资助:

现代农业产业技术体系专项资金

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引用本文:

王晓光, 郭庆港, 么奕清, 李社增, 鹿秀云, 李宝庆, 马平.棉花枯萎病菌AFLP分子标记体系的建立及初步应用[J]. 棉花学报, 2011,23(2): 147-153.

WANG Xiao-Guang, GUO Qing-Gang, ME Yi-Qing, LI She-Zeng, LU Xiu-Yun, LI Bao-Qing, MA Ping.Establishment and Application of AFLP Analysis System for *Fusarium oxysporum* f. sp. *vasinfectum*[J]. Cotton Science, 2011,23(2): 147-153.

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