

研究报告

花椰菜细胞质雄性不育基因特异PCR标记的筛选 Identification of PCR markers associated with cytoplasmic male sterility in Brassica oleracea var botrytis

王春国, 宋文芹 WANG Chun-Guo, SONG Wen-Qin

南开大学生命科学学院, 天津 300071 The College of Life Sciences, Nankai University, Tianjin 300071, China

收稿日期 修回日期 网络版发布日期 接受日期

摘要

基于同源序列的候选基因法(homology-based candidate gene method), 通过检索NCBI核酸及蛋白数据库, 获得细胞质雄性不育(cytoplasmic male sterility CMS)相关的基因或开放读码框。生物学软件分析, 根据保守区设计5对特异引物, PCR扩增, 其中引物P9/P10在花椰菜细胞质雄性不育系knxd612中特异扩增出313 bp的片段。单株检测, RT-PCR分析, 斑点杂交鉴定, 确定此片段为花椰菜细胞质雄性不育系knxd612所特有。序列分析表明该片段与Ogura型胞质不育萝卜, 不育相关开放读码框orf138的同源性高达98%。初步结果显示实验所用不育花椰菜胞质亦可能为Ogura型。该结果为进一步从分子水平研究花椰菜细胞质雄性不育打下了坚实的基础。Abstract: The homology-based candidate gene method was used to identified the specific PCR markers linked to cytoplasmic male sterility (CMS) in cauliflower(Brassica oleracea var botrytis.). Searching the DNA and protein data-base of NCBI, correlative genes or open reading frames were indentified. Analysis of biosoft, based on the conservative regions, five primers were designed. Among them, only primer P9/P10 produced a 313- bp specific fragment. Identified by individual plant testing, analysis of RT-PCR and dot blot, this fragment was only existed in CMS cauliflower knxd612. Analysis of the sequence indicated it was high homologous(98%) with orf138 of Ogura CMS radish. Primary result suggested that the cytoplasmic type of CMS cauliflower knxd612 may belong to Ogura type. This research offered a good foundation to further investigate the CMS mechanism of cauliflower in molecular level.

关键词 [花椰菜 \(Brassica oleracea var.Botrytis\)](#) [细胞质雄性不育](#) [CMS](#) [候选基因](#) Key words [cauliflower \(Brassica oleracea var.Botrytis\)](#) [cytoplasmic male sterility\(CMS\)](#) [candidate gene](#)

分类号

扩展功能	
本文信息	
▶ Supporting info	
▶ PDF(0KB)	
▶ [HTML全文](0KB)	
▶ 参考文献	
服务与反馈	
▶ 把本文推荐给朋友	
▶ 加入我的书架	
▶ 加入引用管理器	
▶ 复制索引	
▶ Email Alert	
▶ 文章反馈	
▶ 浏览反馈信息	
相关信息	
▶ 本刊中 包含“花椰菜 (Brassica oleracea var.Botrytis)” 的相关文章	
▶ 本文作者相关文章	
· 王春国	
· 宋文芹WANG Chun-Guo	
· SONG Wen-Qin	

Abstract

Key words

DOI:

通讯作者