

研究论文

玉米雄性不育基因(ms30)的RFLP作图

梁业红, 周洪生, 蒋琬茹

中国农业科学院作物育种栽培研究所, 北京, 100081

收稿日期 1998-11-7 修回日期 1999-4-29 网络版发布日期 接受日期

摘要 以姊妹交第5代群体(SIB5)和回交一代群体(BC1)为作图群体, 对经细胞学初步定位于玉米第4染色体上的雄性不育基因(ms30)进行了RFLP作图。选用玉米第4染色体上的探针18个, 用集团分离分析(bulked segregant analysis, BSA)进行标记筛选, 用JoinMap作图软件进行统计分析。SIB5群体的RFLP分析表明, ms30基因与玉米第4染色体长臂上的两个探针位点umc15a和umc66a连锁, 交换率分别为5.9%和14.8%。BC1群体的RFLP分析表明umc19、umc15a、bn17.65和csu178a与ms30连锁, 遗传图距为: umc19-14cM-Ms30/ms30-4.2cM-umc15a-1.4cM-bn17.65-3.4cM-csu178a。对ms30基因的定位研究, 不仅为辅助育种打下基础, 而且可以有效地保护我国特有的种质资源。

关键词 [玉米](#) [核雄性不育](#) [ms30](#) [BSA](#) [RFLP](#)

分类号

RFLP Mapping of a Male Sterile Gene (ms30) in Maize

LIANG Ye-Hong,ZHOU Hong-Sheng,JIANG Wan-Ru

Institute of Crop Breeding and Cultivation, Chinese Academy of Agricultural Sciences, Beijing, 100081

Abstract A sibling population SIB5 and backcross population BC1 were applied to map a male sterile gene ms30 which was early located on chromosome 4 of maize by B-A system. 18 probes from maize chromosome 4 were used, and BSA was practised to screen on RFLPs. By using JoinMap software, linkage as well as genetic distance between ms30 and marker loci were obtained. The main result as follows:analysis on SIB5 population showed that ms30 was linked with umc15a and umc66a on maize 4L, the recombination value was 5.9% and 14.8%, respectively. In the BC1 population, umc19, umc15a, bn17.65 and csu178a were found linked to ms30, the genetic distance was umc19-14cM-ms30-4.2cM-umc15a-1.4cM-bn17.65-3.4cM-csu178a.

Key words [Maize](#) [Nuclear male sterility](#) [ms30](#) [BSA](#) [RFLP](#)

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通讯作者 梁业红

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