

论文

莫迦小麦(*Triticum macha* L.) T型恢复基因Rf3和K型不育基因rfv1的连锁关系

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摘要:

为进一步明确莫迦小麦(*Triticum macha*) T型恢复基因Rf3与K型不育基因rfv1的连锁关系, 利用T型细胞质背景(T504A/Tm3314 F₂代和T504A//KTm3314A/90(13)21杂交分离群体)的可育株在K型细胞质下的育性测交分析, 明确了来自莫迦小麦的这2个基因连锁并不紧密, 交换值约为16.54%。可利用T型主效恢复基因Rf3提高含有T型主效恢复基因和K型主效不育基因的基础材料的选择效率。

关键词: *Triticum macha* T型主效恢复基因Rf3 K型主效不育基因rfv1

Linkage Relationship between T-type Restorer Gene Rf3 and K-type Male Sterile Gene rfv1 in *Triticum macha* L.

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Abstract:

Wheat (*Triticum aestivum* L.) breeding line Tm3314 is a T-type non-1B/1R material carrying 1BS of *T. macha*. KTm3314A, a K-type non-1B/1R male sterile line developed from Tm3314, is easily restored in fertility, does not produce haploids in reproduction, and has high temperature-sensitivity, thus has potential in wheat hybrid breeding. The T-type restorer gene Rf3, which is closely linked to K-type male sterile gene rfv1 on 1BS in *T. spelta*, is used as a marker of rfv1 under the background of *T. timopheve* cytoplasm. However, some male sterile materials with substitutive chromosome fragments of the 1BS of *T. macha* have been found the absence of rfv1 under *T. timopheve* cytoplasm background. To understand the linkage relationship between Rf3 and rfv1 in *T. macha*, the segregation generations of (T504A/Tm3314) F₂ and T504A//KTm3314A/90(13)21 as well as their backcross populations with a K-type sterile line K119A were used in field experiments in 2003–2006. The results showed that crossing-over value between Rf3 and rfv1 was 16.54%.

Keywords: *Triticum macha* L. Major T-type restorer gene Rf3 Major K-type male sterile gene rfv1

收稿日期 2007-11-22 修回日期 1900-01-01 网络版发布日期 2008-10-12

DOI: 10.3724/SP.J.1006.2008.01757

基金项目:

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