

用分子原位杂交(GISH)鉴定小麦-簇毛麦双倍体、附加系、代换系和易位系

陈佩度, 周波, 齐莉莉, 刘大钧

南京农业大学细胞遗传研究所;南京 210095

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摘要 用生物素标记的簇毛麦(Haynaldia villosa)染色体组DNA(total genomic DNA)作探针, 以普通小麦染色体组DNA作遮盖(用量1:200左右), 进行有丝分裂中期和减数分裂中期 I 染色体的分子原位杂交(GISH), 经抗生物素蛋白-辣根过氧化物酶复合物(bio-streptavidin-horseradish peroxidase)和联苯胺四盐酸(DAB)检测显色后, 小麦-簇毛麦双倍体、附加系、代换系和易位系中的簇毛麦染色体及染色体片段显棕色, 与显浅蓝色的小麦染色体可明显区分。用GISH不仅可以检测导入小麦中的簇毛麦染色质, 而且可以清楚地显示出易位染色体断裂点的确切位置。将GISH用于减数分裂期染色体配对分析, 还可以清晰形象地显示出同源和非同源染色体之间的配对和分离情况。

关键词 [分子原位杂交](#) [小麦](#) [簇毛麦](#) [易位系](#) [代换系](#)

分类号

Identification of Wheat-Haynaldia villosa Amphiploid, Addition, Substitution and Translocation Lines by in situ Hybridization Using Biotin-labelled Genomic DNA as a Probe

Chen Peidu, Zhou Bo, Qi Lili, Liu Dajun

(Cytogenetics Institute, Nanjing Agricultural University, Nanjing, Jiangsu 210095)

Abstract

In situ hybridization by using biotin labelled genomic DNA of H. villosa as probe and with common wheat genomic DNA for blocking (ratio 1:200) (GISH) was conducted to identify introduced chromosomes or chromosome segments of H. villosa in T. durum-H. villosa amphiploid peroxidase and diaminobenzidine (DAB), the chromatin of H. villosa and common wheat appeared brown and light blue respectively, so as to distinguish each other readily. The GISH is an efficient tool not only for detecting alien chromatin, but also for determining the break point of translocated chromosomes precisely. In addition, it can even provide more interesting information for meiotic analysis since the pairing and segregating behavior between homologous or non-homologous chromosomes could be clearly demonstrated after GISH.

Key words [In situ hybridization](#) [Wheat](#) [Haynaldia villosa](#) [Translocation line](#) [Substitution line](#)

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