



信息速递

- 实验室动态 >
- 通知公告 >
- 学术交流 >
- 近期发表论文**
- 设备设施 >
- 联系我们 >

近期发表论文

首页 > 信息速递 > 近期发表论文 > 正文

Dual-color oligo-FISH can reveal chromosomal variations and evolution in *Oryza* species

发布日期: 2019-09-08 浏览次数: 54

Plant J. 2019 Sep 8. doi: 10.1111/tbj.14522.

Liu X, Sun S, Wu Y, Zhou Y, Gu S, Yu H, Yi C, Gu M, Jiang J, Liu B, Zhang T, Gong Z

Abstract

Fluorescence in situ hybridization using probes based on oligonucleotides (oligo-FISH) is a useful tool for chromosome identification and karyotype analysis. Here we developed two oligo-FISH probes that allow the identification of each of the 12 pairs of chromosomes in rice (*Oryza sativa*). These two probes comprised 25 717 (green) and 25 215 (red) oligos (45 nucleotides), respectively, and generated 26 distinct FISH signals that can be used as a barcode to uniquely label each of the 12 pairs of rice chromosomes. Standard karyotypes of rice were established using this system on both mitotic and meiotic chromosomes. Moreover, dual-color oligo-FISH was used to characterize diverse chromosomal abnormalities. Oligo-FISH analyses using these probes in various wild *Oryza* species revealed that chromosomes from the AA, BB or CC genomes generated specific and intense signals similar to those in rice, while chromosomes with the EE genome generated less specific signals and the FF genome gave no signal. Together, the oligo-FISH probes we established will be a powerful tool for studying chromosome variations and evolution in the genus *Oryza*.

Key words: *Oryza* species; chromosomal variation; dual-color oligo-FISH; karyotype

<https://www.ncbi.nlm.nih.gov/pubmed/31494982>

