

植物和微生物遗传学

# 利用粗线期染色体和DNA纤维的FISH分析水稻端粒序列

李宗芸<sup>1,2</sup>, 覃瑞<sup>3</sup>, 金危危<sup>1</sup>, 熊志勇<sup>1</sup>, 宋运淳<sup>1</sup>

1. 徐州师范大学生命科学学院 徐州 221116, 2. 武汉大学植物发育生物学教育部重点实验室 武汉 430072, 3. 中南民族大学化学与生命科学学院, 430074

收稿日期 2004-6-22 修回日期 2004-8-20 网络版发布日期 接受日期

**摘要** 利用粗线期染色体和DNA纤维的荧光原位杂交 (FISH) 技术分析了水稻广陆矮四号 (*Oryza, sativa* ssp. *indica* cv. -Guangluai No. 4) 的端粒序列。粗线期染色体荧光原位杂交结果表明, 大多数染色体的末端都有端粒串联重复, 但信号的强度在不同染色体上是不同的。伸展DNA纤维荧光原位杂交结果显示, 端粒最长的线状信号长度为6.55 mm, 最短的为1.82 mm, 依据2.51 kb/ $\mu$ m的标准, 它们分别相当于 16.44 kb和4.56 kb。端粒的平均信号长度为  $3.62 \pm 1.32 \mu$ m, 相当于  $9.09 \pm 3.31$  kb。由此可以估计, 最长的、最短的和平均长度的端粒拷贝数约为 2349、651和  $1298 \pm 473$ 。

**关键词** [端粒序列](#) [DNA纤维](#) [粗线期染色体](#) [荧光原位杂交](#)

分类号

## Analysis of Pachytene Chromosome and DNA Fiber FISH for Telomere Sequence in Rice (*Oryza sativa* L. *indica*)

LI Zong-Yun<sup>1,2</sup>, QIN Rui<sup>3</sup>, JIN Wei-Wei<sup>1</sup>, XIONG Zhi-Yong<sup>1</sup>, SONG Yun-Chun<sup>1</sup>

1. School of Life, Xuzhou Normal University, Xuzhou 221116, China; 2. Key Laboratory of MOE for Plant Developmental Biology, Wuhan University, Wuhan 430072, China; 3. College of Chemistry and Life Sciences, South-Central University for Nationalities, Wuhan 430074, China

### Abstract

The telomere sequences were analyzed by pachytene chromosome and extended DNA fiber FISH in rice (*Oryza, sativa* ssp. *indica* cv. -Guangluai No.4). Pachytene FISH results showed that most of chromosome ends possess the telomere tandem repeats, but the signals were not the same on different chromosomes in intensity. Fiber FISH indicated that the longest string of beads was 6.55 mm, while the shortest one is 1.82 mm long, which was equal to 16.44 and 4.56 kb correspondingly based on 2.51 kb/ $\mu$ m, which is the results measured with known control in size. The average value of signal length was  $3.62 \pm 1.32 \mu$ m, i.e.  $9.09 \pm 3.31$  kb. It could be estimated that the longest and the shortest as well as the average value were equal to 2349, 651 and  $1298 \pm 473$  in copy number respectively.

**Key words** [telomere sequences](#) [DNA fiber](#) [pachytene chromosomes](#) [FISH](#)

DOI:

通讯作者 李宗芸, 宋运淳 [yysong@whu.edu.cn](mailto:yysong@whu.edu.cn)

扩展功能	
本文信息	
▶ <a href="#">Supporting info</a>	
▶ <a href="#">PDF(212KB)</a>	
▶ <a href="#">[HTML全文](0KB)</a>	
▶ <a href="#">参考文献</a>	
服务与反馈	
▶ <a href="#">把本文推荐给朋友</a>	
▶ <a href="#">加入我的书架</a>	
▶ <a href="#">加入引用管理器</a>	
▶ <a href="#">复制索引</a>	
▶ <a href="#">Email Alert</a>	
▶ <a href="#">文章反馈</a>	
▶ <a href="#">浏览反馈信息</a>	
相关信息	
▶ <a href="#">本刊中 包含“端粒序列” 的相关文章</a>	
▶ <a href="#">本文作者相关文章</a>	
· <a href="#">李宗芸</a>	
· <a href="#">覃瑞</a>	
· <a href="#">金危危</a>	
· <a href="#">熊志勇</a>	
· <a href="#">宋运淳</a>	