

论文

模式生物小立碗藓遗传转化系统的研究进展

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摘要:

苔藓植物小立碗藓是迄今发现的同源重组率最高的陆生植物, 可与酵母媲美, 具有“绿色酵母”之称。高的同源重组频率、简单的发育模式以及单倍体配子体为主的生活史使其渐渐成为研究生物学进程和发育模式的新型模式生物。现对近年来小立碗藓遗传转化系统研究的进展进行总结和分析, 为相关研究工作者充分利用这一体系提供帮助。对小立碗藓遗传表达系统的载体构建、转化方法及宿主细胞准备等方面的进展进行了综述, 对小立碗藓在基因打靶方面的应用进行了简要总结。

关键词: 小立碗藓 遗传转化 载体构建 转化方法

The Genetic Transformation System in Model Species *Physcomitrella patens*

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Abstract:

Gene-targeting efficiency in the land plant *Physcomitrella patens* (Bryophyta) can only be compared with that observed in *Saccharomyces cerevisiae*. *Physcomitrella patens*, as the new "green yeast", might well become a major tool for functional genomic studies of multicellular eukaryotes. In addition, the relatively simple developmental pattern and the haploid gametophyte in the life history make it a suitable genetic tool. Molecular tools and genetic information are rapidly developing for *P. patens*. The current knowledge of *Physcomitrella patens* transformation system including the construction of vector, the transformation method and the preparation of the host cells are reviewed. The application of the *Physcomitrella patens* genetic transformation system was exemplified at the last.

Keywords: *Physcomitrella patens* Genetic transformation Vector construction Transformation methods

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