

交叉学科

荷能重离子径迹刻蚀纳米通道技术及其应用

张伟明,王宇钢,薛建明

北京大学重离子物理研究所,北京100871

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摘要 纳米通道; 离子径迹刻蚀; 核酸测序; 生物传感器

关键词

纳米通道技术是20世纪末发展起来的一种可以直接解读核酸分子编码信息的新方法,基本原理是借助膜片钳装置将不同核苷酸通过纳米通道的电信号直接翻译为相应的核苷酸信息。它较现有的方法简便、快捷和经济,并有可能推广应用到分子筛、单核苷酸多态分析以及对生物离子通道模拟上,其中以荷能重离子径迹刻蚀纳米通道最具应用潜力。详细介绍了荷能重离子径迹刻蚀纳米通道的制备、研究进展及其在生命科学上的应用前景。

Nanochannel technology is a new method of sequencing nucleic acid directly, originated at the end of the fast century. The esessential principle is to translate the current signal into the nucleic acid sequence information by a patch clamp equipment as it passes through the nanochannel. This method is cheaper, simpler and faster than any other existing method. Futhermore, it can be applied in molecular griddle, SNPs, biological membrane ion channel simulation, and Other important biochemical areas. Up to now, etched energetic heavy ion track nanochannel is the most potential nanochannel to accelerate its application. This paper deals chiefly with its preparation, research progress and application prospect in biology.

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通讯作者:

作者个人主页: 张伟明;王宇钢;薛建明

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