

研究报告

用于分子生态学研究的土壤微生物DNA提取方法

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摘要

利用SDS高盐法和变性剂加SDS高盐法对土壤微生物总DNA进行了提取, 然后通过电泳加树脂柱回收和连续2次树脂柱回收方法进行了纯化. 结果表明, 变性剂加SDS高盐法的DNA提取效率明显高于前者, 电泳加树脂柱法的纯化效果更好. 通过PCR扩增表明, 经过纯化后的DNA, 都可以进行16SrDNA扩增和 nirK、nosZ、nifH 等功能基因的扩增. 因此, 变性剂加SDS高盐法是一种更为高效、可靠且适合于环境微生物分子生态学研究的DNA提取方法.

关键词 [分子生态学; 土壤微生物; DNA提取](#)

分类号

Extraction method of soil microbial DNA for molecular ecology study

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Abstract

In environmental microbiology, molecular ecology study has been widely concerned in the world, while high quality DNA is the basis of the study. In our study, soil microbial DNA was extracted by the methods of SDS lysis and denaturant plus SDS lysis, and purified with gel electrophoresis plus minicolumn and double minicolumn methods. The results showed that denaturant plus SDS lysis could extract DNA more efficiently, and gel electrophoresis plus minicolumn could help to obtain purer DNA that was available in amplifying its 16S rDNA and functional genes by PCR. Therefore, denaturant plus SDS lysis could be an efficient and reliable method to extract DNA in molecular ecology studies.

Key words

[Molecular ecology](#) [Soil microorganism](#) [DNA extraction](#)

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