

研究报告

一株菲降解细菌的分离鉴定及其特性

祝儒刚¹, 钟鸣¹, 周启星², 刘海宁¹, 李玉双¹

¹沈阳农业大学辽宁省农业生物技术重点实验室, 沈阳 110161;

²中国科学院沈阳应用生态研究所陆地生态过程重点实验室, 沈阳 110016

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摘要 通过选择性富集培养, 从沈抚灌区石油污染土壤中分离到1株菲降解细菌. 试验证明该菌株能以菲为唯一碳源和能源生长. 经形态学、生理生化鉴定和16S rRNA基因序列比对分析, 确定该菌株属于不动杆菌属, 命名为 *Acinetobacter* sp. L2. 系统发育进化分析发现, L2菌株与 *Acinetobacter* sp. DG880 [AY258108] 亲缘关系最近. L2菌株培养7 d后对菲的降解率达96.3%. 邻苯二酚2,3-双加氧酶活力测定表明, L2菌株可能含有菲降解基因.

关键词 [菲](#) [16SrRNA](#) [Acinetobacter](#) [生物降解](#) [邻苯二酚2,3-双加氧酶](#)

分类号

Isolation and identification of a phenanthrene-degrading bacterial strain

ZHU Rugang¹, ZHONG Ming¹, ZHOU Qixing², LIU Haining¹, LI Yushuang¹

¹Key Laboratory of Agricultural Biotechnology of Liaoning Province, Shenyang Agricultural University, Shenyang 110161, China;

²Key Laboratory of Terrestrial Ecological Process, Institute of Applied Ecology, Chinese Academy of Sciences, Shenyang 110016, China

Abstract

Through selective enriched culture, a phenanthrene-degrading bacterial strain was isolated from the oil-contaminated soil in Shenfu irrigation area of Shenyang, Northeast China. The morphological and physiological-biochemical identification, 16S rDNA sequence analysis, and phylogenetic study showed that this strain was belonged to genus *Acinetobacter* and named as *Acinetobacter* sp. L2, and closest to *Acinetobacter* sp. DG880 [AY258108]. It could use phenanthrene as the sole carbon source. After 7 days culture, the degradation rate of phenanthrene was 96.3%. According to the activity of catechol 2,3-dioxygenase, the strain probably had phenanthrene-degrading genes.

Key words [Phenanthrene](#) [16SrRNA](#) [Acinetobacter](#) [Biodegradation](#) [Catechol](#) [2,3-dioxygenase](#)

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