

عنوان مقاله:

Isolation of petroleum hydrocarbon-degrading bacteria from Gwadar Bay

محل انتشار:

بیست و یکمین کنگره بین المللی میکروب شناسی ایران (سال: 1399)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Background and Aim : Marine oil pollution is one of the most important environmental problems. These compounds tend to bio accumulate and threaten human health, as a result, development of efficient techniques for treating contaminants is necessary. Due to the large passage of tankers from the Oman Sea, the region is at risk of oil spills. The aims of the present study was to isolation of petroleum hydrocarbon-degrading bacterium from costal sediments of Gwadar Bay. Methods : Surface sediment and water from different regions of the Gwadar Bay were collected and stored in the refrigerator until the bacteria were isolated. Samples were enriched in mineral salt medium with crude oil (۱%) as the only source of carbon and energy. Crude oil degrading bacteria were isolated by serial dilutions of bacterial consortium. Isolated strains then identified by molecular (۱۶S rDNA) and biochemical analysis. Results : A Gram-negative bacterium strain was isolated from enrichment consortium and named GW₁. Isolated strain has been identified by ۱۶S rDNA sequence analysis and revealed most homology with Bacillus sp. The ability of the isolated strain to degradation of crude oil has shown that it is able to decompose more than ۸۵% of crude oil in a week. Conclusion : In general, the results show the ability of the isolated strain to degradation crude oil. In addition, to increase the efficiency of GW₁, it is necessary to optimize bacterial growth conditions in the presence of crude oil.

کلمات کلیدی:

Gwadar Bay. oil pollution . Bioremediation

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