

Bioremediation strategies based on a native strain isolated from sites contaminated with hydrocarbons.

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The bacterial strain studied in this work is a member of a bacterial consortium isolated from chronically hydrocarbon-contaminated site in Campana (Bs.As.). This native strain was identified as *Pseudomonas* sp. according to its 16S rRNA gene partial sequence. The ability of this strain to produce biosurfactants was evaluated in Erlenmeyer flasks containing a minimal saline medium (MSM) supplemented with different carbon sources: a mixture of hydrocarbons (HC; 4.5%_{v/v}), glycerol (Gly; 2%_{v/v}), sunflower oil (SO; 2%_{v/v}) and peanut oil (PO; 2%_{v/v}). Cultures were performed at 135 rpm and 25 °C for 4 days. Bacterial growth was measured by cell dry-weight method, and biosurfactant production was estimated by direct measurement of the surface tension (ST). Results showed that bacteria was able to grow on all the carbon sources tested, reaching concentrations of 1.24g/l in HC, 7.69g/l in Gly, 3.98g/l in SO and 9.29g/l in PO. Culture supernatants showed a decrease in ST values when the strain grew on SO and PO (22.5% and 25.5%). No decrease in ST values was observed when HC and Gly were used as carbon source. As results shown, this bacterial strain can produce biosurfactants under certain culture conditions. This potential advantage could be applied in bioremediation strategy of hydrocarbon contaminated sites.