

Isolation and Screening of Chromium Resistant Strains of Pseudomonas From Oil Contaminated Soil, Khuzestan, Iran

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Background & Objectives: Isolation and screening of native metal resistant microbial strains is the first step of environmental remediation and detoxification. Among these the bacteria are of particular importance. Goals : The Purpose of this study is isolation and screening of chromium-resistant Pseudomonas spp and determines the minimum inhibitory concentration values of the growth.

Methods: The first, 5 samples of Khuzestan's oil contaminated soils collected under the sterile condition and prepare 10-1-10-10 serial dilutions and were cultured on LB agar medium containing 5 ppm of the chromium. The Macconkey agar medium was used for screening of gram negative bacterial strains. The catalase and oxidase tests, nitrate reduction, methyl red, vozhesproskauer and glucose oxidation in TSI tube were used for strains identification. For determine the MIC of chromium metal on LB agar medium with the concentrations 200-800 ppm, the strains were cultured as surface plating methods.

Results : The strain SS4 tolerate up to 800 ppm of chromium metal and it is good candidate for elimination and detoxification purposes.

Keywords: Screening; Chromium; Pseudomonas; Bioremediation

