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Maryam Fanaei, Giti Emtiazi



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Microbial assisted (*Bacillus mojavensis*) production of biosurfactant lipopeptide with potential pharmaceutical applications and its characterization by MALDI-TOF-MS analysis

Maryam Fanaei, Giti Emtiazi*

Department of Biology, University of Isfahan, Isfahan, 81746-73441 I.R. Iran

Abstract

Lipopeptides are a fascinating group of biosurfactants possess remarkable surface properties. Functional groups on the surface of these molecules can combine with other substances leading to obtain applicable materials. The aim of the present study is the isolation of an anionic lipopeptide-producing bacterium and verifying its potential for pharmaceutical applications. A *Bacillus mojavensis* strain capable of producing a great amount of lipopeptide biosurfactant was selected from a number of isolated *Bacillus* using oil spreading technique, blood agar hemolysis, drop collapsing assay, pH sensitivity and biuret test. Anionic extracellular lipopeptides compound was extracted using metal salt precipitation method and its properties were investigated by TLC, FTIR and SDS page. HPLC-amino acid analysis showed that negative-charge amino acids were dominant in the peptidyl part of the crude supernatant and purified anionic fraction. Furthermore Matrix-assisted laser desorption ionization time-of-flight tandem mass spectrometry (MALDI-TOF-MS) analysis was applied to detect the lipopeptides harvested from the most anionic fraction obtained from anion-exchange chromatography

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