P48

Characterization and Purification of Biosurfactant from Bacillus amyloliquefaciens LP03, Degrading Crude oil

Sang-Cheol Lee, Ju-Soon Yoo, Soo-Yeol Chung¹, Woo-Hong Joo² and Yong-Lark Choi

Dept. of Biotechnology Faculty of Natural Resource and Life Science,
Dong-A University, Busan, Korea

¹Dept. of Food Science & Nutrition, Dongju College, Busan, Korea

²Dept. of Biology, Changwon National University, Changwon, Korea

Bacillus amyloliquefaciens LP03 was isolated from soil sample. B. amyloliquefaciens LP03 was able to used crude oil as carbon and energy source. The bacterium had a marked crude oil degrading activity as developed clear zone around the colony after incubation 24h at 37°C. LP03 was identified as Bacillus amyloliquefaciens by analysis of 16S rDNA and partial gyrA gene nucleotide sequence. The surface tension of the culture filtrates in B. amyloliquefaciens LP03 was decreased to 27 mN/m. The biosurfactant produced by LP03 was emulsified crude oil, vegetable oil, and hydrocarbons. The emulsifying activity of the biosurfactant showed better than the chemically synthesized surfactant (SDS, Span40, Span 85). The crude biosurfactant was obtained from the culture broth by solvent extraction and evaporation. Biosurfactant was purified by column chromatography, TLC, and HPLC.