

P47

## Characterization and purification of a new biosurfactant from *Bacillus athropaeus* DYL130

Sun-Hee Kim, Sang-Cheol Lee, In-hye Park, Ju-Soon Yoo,  
Soo-Yeol Chung<sup>1</sup> Woo-Hong Jo<sup>2</sup> and Yong-Lark Choi\*

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

<sup>1</sup>Dept. of Food Science & Nutrition, Dongju College, Busan

<sup>2</sup>Dept. of Biology, Changwon National University, Changwon

The biosurfactant-producing strain was isolated from Duck-Yu Mountain soil and identified as *Bacillus athropaeus* DYL130 by 16S rDNA and *gyrA* gene nucleotide sequence analysis. Extracellular surfactant produced by the strain able to decrease surface tension of water from 72 to 35 mN/m (CMC). Emulsification activity and stability of crude biosurfactant was measured by using water-immiscible hydrocarbons and oil as substrate. We observed the biosurfactant was very strongly emulsified kerosene. So we purified the biosurfactant with column chromatography (DIAON HP20) and the purified sample was further purified by TLC(thin layer chromatography, silica gel 60 F<sub>254</sub>, MERCK) with CM(chloroform/methanol = 6 : 4) as a developing solvent mixture. We confirmed the one spot, and R<sub>f</sub> values were 0.5. The gel band were scratched off from the plate and extracted three times with 100% methanol. and were further purified by high pressure liquid chromatography(HPLC). As a result, we found our biosurfactants was similar to iturin.