

Isolation of Biosurfactant-producing Yeasts from oil-Contaminated Soil

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Biosurfactants are compounds on microbial cell surfaces or excreted extracellularly, which contain hydrophilic and hydrophobic portions that capable to decrease surface and interfacial tension. They have been recognized as important microbial products with wide application in a number of industries and processes. This research was oriented to the production using endogenous yeasts isolated from oil-contaminated soil.

Strains were cultivated on yeast selective medium and the positive ones were then screened in a basal medium supplemented with palm oil olein, From 65 isolates obtained, base on their capability to reduce surface tension, nine isolates were found to be the most productive. Four isolates were originated from mineral oil-contaminated soil were *Candida parapsilosis*, *Torulopsis etchellsii*, *Torulopsis* sp 1, and *Candida guilliermendi*, whereas five isolated from palm oil-contaminated soil were *Torulopsis* sp2, *Candida* sp, *Torulopsis sphaerica*, *Rhodotorula* sp, and *Candida tropicalis*.

In shake flask cultures, with a 10% glucose-palm oil medium, *Rhodotorula* sp., *Candida parapsilosis* and *Torulopsis etchellsii*, could yield biosurfactant of 31.54 g/l, 13.71 g/l and 11.50 g/l respectively. The results were found to be more higher than that produced by a reference strain, i.e. ***Candida*** *bombicola* JCM 9596. Preliminary test suggests that the biosurfactant is composed mainly by glycolipids.