E305 Isolation and Cultivation of Microorganism Producing an Extracellular Levan-degrading Enzyme from Soil

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A bacterial strain LK012 isolated from soil as a levan-assimilating microorganism produced an extracellular levan-degrading enzyme that converted levan to fructooligosaccharides. According to the taxonomic characteristics of its morphological and physiological properties, the strain was identified as *Bacillus* sp. LK012. The levan-degrading enzyme was specifically induced by levan. For the production of the levan-degrading enzyme, the optimum cultural conditions were examined. The levan-degrading enzyme was purified from cell-free extract to an electrophoretically pure state by ammonium sulfate fractionation, sequential column chromatographies. Characterization of the purified enzyme and identification of hydrolysis products was examined.

E306 Induction of Stress Shock Protein DnaK by 2,4-D in *Burkholderia cepacia*

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The purpose of this work is to investigate the production of stress shock protein by phenoxyherbicide 2,4-D (2,4-dichlorophenoxyacetic acid) in *Burkholderia cepacia* which was isolated from soil samples. The stress shock protein was induced at the different range of 2,4-D concentrations to exponentially growing cultures of *B. cepacia*. This response is characterized by the induction of protein which is the 45 kilodalton of DnaK by SDS-PAGE and western blotting. Survival tests of the culture under the same conditions in the 2,4-D concentrations and given time for stress were performed and the induction of the stress shock protein paralleled in the number of colony-forming unit on LB plates for the strain.