P47

Cultural Characteristics of a Phosphate-solubilizing bacterium, *Pseudomonas cepacia* DA23

Ok-Ryul Song, Mi-Hwa Lee, Seung-Jin Lee, Soo-Yeol Chung[1)] and Yong-Lark Choi

Faculty of Natural Resources and Life Science, Dong-A University
[1)]Dept. of Food Science, Dongju College

A bacterium having strong ability to solubilize inorganic phosphate was isolated from cultured soils for salts accumulation and superfluity treatment of phosphate, using sucrose minimal agar-tricalcium phosphate medium. The strain was identified to *Pseudomonas cepacia* DA23, based on the physiological and biochemical properties. The optimum temperature and initial pH to solubilize insoluble phosphate in sucrose minimal medium were 26℃ and pH 5.0, respectively. In these conditions, phosphate solubilizing activites of the strain against two types of insoluble phosphate like tricalcium phosphate, hydroxy apatite, were quantitiatively determined. When glucose was used for carborn source, the strain had a marked mineral phosphate solubilizing activity. Inorganic phosphate solubilization was directly related to the pH drop by the strain.

Analysis of the culture medium confirmed the production of gluconic acid as the main organic acid released by *Pseudomonsa cepacia* DA23.