

Benzene and BTEX mixture degradation of *Pseudomonas putida* HPLB-1

Jin-Hee Park, In-boung Yeo, Yun-Hee lee

Samsung everland Environmental Development Div. Bio T/F team
(www.forw@samsung.co.kr)

ABSTRACT

Benzene degrading bacteria was screened with a soil contaminated with various hydrocarbons. Of these, a isolate having high degrading effect was selected, identified to *Pseudomonas putida* with 16S rRNA gene characterization, and named HPLB-1 (KCCM-10187). This isolate in conditions of 50, 100 and 500 ppm of benzene degrade to 100% for 4, 6, and 7.5 hour, respectively. In 500, 1000, and 1500 ppm, the degrading ratio was about 100% after 24 hour. Its degrading ratios of high concentration of 1000, 1500, 2000, 3000, 4000 and 5000 ppm for 48 hours was 100, 100, 87.0, 59.9, 7.0 and 0 %, respectively. And also, this isolate can degrade to 100% in 100 ppm of toluene and ethylbenzene for 24 hours, and 10-30% in 100ppm of *o*, *m*, *p*-xylene. however, xylenes in BTEX mixture was degraded about 70% above. As this result, we suggested to co-metabolism to related other chemical compounds.
