

E311

Distribution of urease producing strains and comparison of urease genes sequence homology

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A certain strains are detected by urease test, which is using Christensen's urea broth, in water samples of a cattle shed, Han river, Incheon sea. Urease activity was measured each places, monthly samples. First, pH was measured to found samples's peak in each month and place. Second, colorimetric method for determination of ammonia. Ammonia reacts with alkaline hypochlorite and phenol in the presence of a catalyst, sodium nitroprusside, to form indophenol. The concentration of ammonia is directly proportional to the absorbance of indophenol, which is measured spectrophotometrically at 570nm. Third, through southern blotting is known urease gene sequences are used probe. Urease positive colony of each samples are found DNA-colony hybridization. The result are confirmed that hybridized genes are same it, which was already in each samples. Expecting results are more higher sample of a cattle shed than samples of river,

E312

The Studies of Copolymer, Poly (3-hydroxybutyrate-co-3-hydroxyvalerate) Synthesis in Recombinant pha⁺ *Escherichia coli*

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acs gene cloning was constructed by subcloning the 2.2-kb MunI-MunI restriction fragment of 638 and 639 which include *acs* gene from the kohara phage into the unique EcoRI site of pUC18 and pJM9131 containing the PHA biosynthesis genes. Then recombinant *E. coli* fadRatoC(con) mutants containing the polyhydroxyalkanoate(PHA) biosynthesis genes are able to incorporate significant levels of 3-hydroxyvalerate (3HV) into the copolymer [P(3HB-co-3HV)]. Quantitative determination of PHB and P(3HB-co-3HV) was performed by gas-chromatographic analysis of extracts obtained from methanolysis of lyophilized cells.