

H211

### High Frequency Shoot Regeneration from Leaf Explants of Cucumber

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Leaf explants of cucumber (*Cucumis sativus* L.) was achieved on Murashige and Skoog's medium supplemented with various concentrations of  $\alpha$ -naphthalene acetic acid (NAA) and 6-benzylaminopurine (BAP). We observed direct shoot organogenesis from leaf explants of *Cucumis sativus* cv. Shinhukjinju. Somatic embryos and multishoots were also observed on the calli. Highest frequency of plantlet formation was observed on NAA/BA (5.0  $\mu$ M/2.5  $\mu$ M). Formation of shoots occurred within 3 to 4 weeks. Only one subculture of calli to growth regulator-free medium was required for regeneration. The frequency of shoot formation was 80 - 90% of the explants regenerated with 5 - 10 shoots per explants. They are transferred to soil in plastic pots and developed into plants of normal appearance.

H301

### Biosynthesis of Poly-3-hydroxyalkanoates Bearing Methyl-phenoxy Substituent by *Pseudomonas putida* KCTC 2407

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*Pseudomonas putida* KCTC 2407 synthesized poly-3-hydroxyalkanoates (PHAs) bearing methyl-phenoxy substituents when incubated with 8-methyl-phenoxy-octanoate (8-MPO) as the sole carbon substrate. The PHA content accumulated in the bacterium grown with 8-MPO and a mixture of 8-MPO and nonanoate were 13 % and 21 % of dry cell weight respectively. Synthesized PHAs were characterized by gas chromatography, mass spectroscopy and nuclear magnetic resonance spectroscopy. PHA synthesized from 8-MPO was a copolyester composed of two monomer units consisting of 3-hydroxy-6-methyl-phenoxy-hexanoate (80 to 90 mol%) as the major component and 3-hydroxy-4-methyl-phenoxy-butyrate (10 to 20 mol%) as the minor component. This copolyester was brittle like poly-3-hydroxybutyrate (PHB) homopolymer, which is not a distinct characteristic of common medium chain length PHAs.