

E225 Cloning of an aminoalcoholphosphotransferase cDNA from Chinese cabbage roots

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Aminoalcoholphosphotransferase is the enzyme that catalyzes the synthesis of phosphatidylcholine and phosphatidylethanolamine from diacylglycerol using CDP-aminoalcohol such as CDP-choline and CDP-ethanolamine. Chinese cabbage aminoalcoholphosphotransferase cDNA (*AAPT*) contains an open reading frame of 1,167 bp coding for a protein of 389 amino acids. It shared 81% identity and 94% similarity with soybean *AAPT1* at the predicted amino acid level. Hydropathy profile analysis suggested that the predicted protein structure of Chinese cabbage aminoalcoholphosphotransferase was very similar to the soybean enzyme, showing an overall hydrophobicity and having the same number of predicted transmembrane domains. Southern analysis indicated that there are close isoforms of the enzyme. *AAPT* was expressed equally well in young shoots and roots.

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Effect of Benzyl Adenine on Gene Expression of Small GTP-Binding Protein, Rho

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The small GTP-binding protein families regulate various cell functions in animals and plants. Among them, Rho is thought to regulate cytoskeleton organization in a cell, especially polymerization of actin. In order to examine a possible involvement of phytohormones in actin polymerization, we investigated effect of phytohormones on expression of Rho mRNA in garden pea (*Pisum sativum L.*) shoot apex. PCR was accomplished in garden pea cDNA using synthetic primer based on Rho1Ps sequence (Yang. et), and the acquired ca. 500bp PCR product was use for detecting Rho mRNA expression by northern blotting. As a result, application of Indole 3-Acetic acid, 6-Benzyladenine, Gibberellic acid, or Brassinolide showed a positive enhancement of Rho mRNA expression level as much as 4.16, 10.62, 4.22, or 7.29 folds, respectively. However application of Abscisic acid showed slightly inhibition of Rho mRNA expression. In this presentation, effect of the most effective hormone, BA on Rho mRNA expression will be mainly discussed.