

E212 Signals Involved in Wound-induced Proteinase Inhibitor II
Gene Expression in Cotyledons and Leaves of Hot Pepper

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Wound damage to the leaves of plants from a number of families results in the synthesis of proteinase inhibitor proteins at the wound sites as well as in distal leaves [Bradshaw *et al.*, (1989) *Plant Mol. Biol.* 14: 51-59]. A cDNA clone *PIN II* encoding a proteinase inhibitor II which is wound-induced, was isolated from cDNA library prepared from mRNA of hot pepper (*Capsicum annuum* L.) pericarp. It had an open reading frame of 330 bp which encodes a polypeptide with a predicted molecular weight of 12,080 D. Nucleotide sequence of *PIN II* had 87-72% identity with the *PIN II* cDNA of potato, tobacco and tomato. Amino acid sequence analysis also showed high identity with the known PIN II proteins. We studied about interaction between signal-induced materials, such as abscisic acid, linolenic acid and current, and *PIN II* gene induction in hot pepper. *PIN II* also constitutively expressed in floral organs of hot pepper.

E213 Effect of Far infrared Ceramics on the Ethylene Production in
Mungbean Hypocotyls

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Ethylene production was measured in the mungbean hypocotyls in the presence of far infrared ceramics using a gas chromatography. Both of IAA- and ACC-induced ethylene production was inhibited by the application of far infrared ceramics. This data suggested that far infrared ceramics affected the last step in the ethylene production. ACC oxidase activity which regulates this step was reduced by the treatment of far infrared ceramics. The growth rate did not affect by the application of far infrared ceramics after 12 hr. These data suggested the possibility that far infrared ceramics might be used to increase the storage period and freshness of fruits, flower, or vegetables by inhibiting ethylene production. (이 연구는 95년도 한국과학재단 국산연구기기 시험연구과제지원에 의한 결과임)