E214 Isolation and Characterization of *o*-Diphenol-*O*-Methyltransferase cDNA Clone in Hot Pepper

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A cDNA clone, *CaOMT1* encoding an *o*-diphenol-*O*-methyltransferase(OMT), which is involved in capsaicin biosynthesis, was isolated from cDNA library of hot pepper (*Capsicum annuun* L.) pericarp. It has an open reading frame of 1,080 bp which encodes a polypeptide with a predicted molecular weight of 39,430 D. It also has 5 conserved boxes which appear in all known OMT's. Nucleotide sequence of *CaOMT1* has 89-74% identity with the OMT cDNA of tobacco, aspen, alfalfa, and poplar. CaOMT1 protein has high identity with the known OMT's which have a substrate of *o*-diphenolic compound, especially 5-hydroxyferulic acid and caffeic acid. *CaOMT1* mRNA expression level has increased during pepper fruit development, but has decreased during fruit ripening. This fact means *CaOMT1* gene is fruit development-related. And it was also observed that *CaOMT1* mRNA was not detected in total RNA of pepper leaf. So *CaOMT1* gene appeard to be a fruit-specific gene. *CaOMT1* is the first reported cDNA clone for enzymes related to phenylpropanoid pathway in hot pepper.

E215 Effects of Light on Disassembly of Chloroplast during Senescence of Detached Leaves in *Phaseolus vulgaris*

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The changes of chlorophyll-protein complexes that are associated with leaves senescence in *Phaseolus vulgaris* were investigated. The loss of chlorophyll that is characteristic of leaves senescence accompanied by degradation of chlorophyll-protein complexes. PSI holocomplex containing LHCI apoproteins was rapidly decreased after 2 day of senescence period. On the other hand, reaction center (RC)-core complex was steadily increased in the early stages of senescence, and then degradation of RC-core complex was appeared to occur after 6 day of leaves senescence. As disassembly of trimeric LHCII progressed, there was a steady increase in the amount of small complexes including monomeric LHCII apoproteins. Light was treated to detached leaves to investigate the effect of light on disassembly of chlorophyll-protein complexes. The decrease in chlorophyll content was delayed throughout leaves senescence, compared to that of darkness. In the changes of chlorophyll-protein complexes, PSI holocomplex was remarkably decreased after 6 day, and degradation of trimeric LHCII was appeared to occur after 8 day during senescence. These results suggest that light may be an important factor for stability of chlorophyll-protein complexes.