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Bioinformatics Posters

Molecular Cloning and Characterization of Ubiquitin Conjugating Enzyme (E2) from melon (*Cucumis melo* L.) and Evolutionary Relationships among E2s in Plants

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Ubiquitin-conjugating enzymes, also known as E2 enzymes and more rarely as ubiquitin-carrier enzymes, perform the second step in the ubiquitination reaction that targets a protein for degradation via the proteasome. In this study, one of the ubiquitin-conjugating enzyme (CmE2) gene was isolated from a melon (*Cucumis melo* L.) using the RACE (Rapid amplification of cDNA ends) method. The 719 basepair long melon CmE2 cDNA (GenBank accession no: EU853458) encoding 148 amino acids (16.5kDa protein) was characterized. The predicted amino acid sequence of CmE2 is 100% identical to E2 genes from *Medicago truncatula*, *Populus trichocarpa*, *Arachis hypogaea*, *Pisum sativum*, *Sorghum bicolor*, *Solanum tuberosum*, *Arabidopsis thaliana*. Three highly conserved domains were found within the CmE2. Ubiquitin-conjugating enzyme, E2 catalytic (UBCc) domain, Ubiquitin-conjugating enzyme, Ubiquitin-protein ligase (Posttranslational modification, protein turnover, chaperones). Ubiquitin-conjugating enzyme, E2 catalytic (UBCc) domain is part of the ubiquitin-mediated protein degradation pathway in which a thiol-ester linkage forms between a conserved cysteine and the C-terminus of ubiquitin and complexes with ubiquitin protein ligase enzymes, E3. We show here for the first time that CmE2 gene was cloned and characterized its amino acid sequences. This provides comparison of its deduced amino acid sequence with that of previously known E2 genes which is allowed for the identification of highly-conserved domains.

Evolutionary Analysis of Keratin Gene (KRT84) In Different Mammalian Species

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Hairs, as a typical mammalian characteristic, present a similar morphogenesis, structure and modality of growth in all subclasses, monotremes, marsupials and placental. The molecular basics of hair formation appear to be very similar among species despite there being an extremely different range of phenotypes with respect to hair coverage of skin or coat (Purvis and Jeffery 2007). Furthermore hair is an important part of adaptation and social behavior in different mammalian species. Some mammalian species such as human seem to have fewer or no hair compared to other mammalian species. In fact, humans have more hair than a chimpanzee; the difference is that most human hair consists of the almost invisible, fine hair (Morris D. 1967). Alone on head, human have 100.000 scalp hairs where as it differs from fair people 140.000 to