

E209 Effects of Abiotic Stresses on Leaf Senescence of Transgenic Tobacco Plants, in which Cellular Polyamine Contents Were Changed.

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We have investigated the effects of several abiotic stresses such as wounding, salt, acidity, heat and ABA on leaf senescence using transgenic tobacco plants, in which cellular contents of polyamines were changed by introducing the genes of polyamine and ethylene biosynthesis in sense and antisense orientation. Expressions of transgenes were confirmed by northern blot analysis. Abiotic stresses were treated in the leaves of transgenic plants of T1 generation. In transgenic tobacco plant expressing *S*-adenosylmethionine decarboxylase gene in sense, polyamine biosynthesis were increased by 3-4 times. Also, In antisense transgenic plants expressing ethylene biosynthetic genes, putrescine and spermidine contents were also dramatically increased. In treatments with 400mM NaCl, wounding and other stresses in leaf disc of these transgenic plants, chlorophyll contents were significantly increased, compared with that of wild type plants. These results suggest that leaf senescence might be delayed by the protect effect of cellular polyamines.

E210 Genetic Structure of a Ornithine Carbamoyltransferase from *Canavalia lineata*

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The genomic library was constructed from *Canavalia lineata*. The screening of genomic DNA library using the cDNA of OCT1 as a probe revealed that the genetic structure of a OCT1 and it's upstream region. *Canavalia lineata* OCT1 gene spans 3.85kb, consists of 5 exons and 4 introns. The introns range in size from 103 bases to the relatively large size of 1.35 kb. Genomic DNA blot analysis showed that OCT1 gene exists as a single copy in the genome. And we could see that OCT1 is expressed in the leaf, stem and root by RT - PCR. The transcription initiation site of the OCT1 gene was determined by primer extension analysis. The regulatory elements located on the OCT1 1.7kb 5' upstream region are the transcription factor(HSF, CF2), homeobox (Ath b - 1, S8), SBF - 1, GT - 1, nitrogen regulatory gene(NIT2), CCAAT box and TATA box etc.