

عنوان مقاله:

Expression Analysis of Two Senescence Involved Genes in Brassica napus and Arabidopsis thaliana

محل انتشار:

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خلاصه مقاله:

Expression analysis was carried out to characterise the level and time of expression of two senescence related cDNAs, LSC650 and LSC54, in Brassica napus and Arabidopsis thaliana. The extent of DNA sequence similarity showed that the LSC650 gene may en-code the catalase homologous to Cat³ in Arabidopsis thaliana the role of which is to scav-enge H₂O₂. Also, LSC54 gene encodes a metallothionein protein that may detoxify metal ions in plant cells. Plant leaves were characterised at different developmental stages by biochemical analysis, including chlorophyll and protein assays. Northern analysis re-vealed strong levels of LSC650 and LSC54 expression in senescent leaves and lower levels in mature green leaves, but very weak or no expression in young leaves in B. napus. The transcription of genes, LSC650 and LSC54, was almost at the same level with few changes between maturity and senescence in leaves of Arabidopsis at different plant growth phases, being due to a possible unknown stress. The results indicate that both genes stud-ied may act as antioxidants, and have a role in scavenging active oxygen species (AOS) caused .by catabolism of macromolecules during senescence

کلمات کلیدی:

Brassica napus, Active oxygen species (AOS), Arabidopsis thaliana, Catalase, Metallothionein-like protein, Senescence

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