CHOLINEPHOSPHOTRANSFERASE mRNA IS EXPRESSED IN THE OUTER INTEGUMENT OF YOUNG SOYBEAN SEEDS

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ABSTRACT

Cholinephosphotransferase (CPT) is a key enzyme in lipid metabolism in soybean seeds. It catalyzes the synthesis of phosphotidylcholine, the predominant lipid component of membranes (Kennedy and Weiss, 1956). The kinetic properties of CPT and the growth temperature effect on soybean CPT activity have been well studied (Cheesbrough, 1989; Cho and Cheesbrough, 1990).

CPT mRNA was detected using Fluorescence In Situ Hybridization (FISH). Asymmetric sense and antisense CPT RNA probes were synthesized in vitro by transcription from recombinants of pGEM3Z-CPT. The protocol of FISH was modified from Cox et al. (1984). For the first time, this technique was applied successfully to detect CPT mRNA expressed in young soybean seeds (early stage of R5). Estimates from the observed symbols suggest that a large fraction of CPT mRNA is both retained in sections and hybridized with probes. The results indicate that CPT mRNA is expressed in the layer of outer integument of young soybean seeds.

REFERENCES


