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Abstract

Based on the NH2-terminal sequence of three PR-10 isoforms previously identified in *Lupinus albus* leaves and a conserved amino-acid region in the PR-10 proteins from leguminosae, a pair of oligonucleotides was designed and used to amplify the corresponding cDNA fragment from a *L. albus* leaves cDNA library. A fragment of DNA of 200 bp was isolated from the polymerase chain reaction (PCR) mixture and subsequently used to screen the cDNA library. A cDNA coding for a PR-10 protein of 158 amino acid residues was cloned and sequenced. Subsequent studies involving Northern and Western blot analysis have shown that the PR-10 protein isoforms are differentially expressed during the development of the healthy lupin plant. High mRNA and protein contents were detected in roots and hypocotyls of both 7- and 20-d-old plants. In young leaves, the mRNA and protein contents were low and increasead in mature leaves.

Tissue printing experiments with root sections suggest that the proteins are extracellular and are mainly associated with the vascular tissues in mature roots.

Keywords

cDNA cloning, differential protein expression, intercellular spaces, vascular tissues, white lupin.