

F802 Untranslatable Coat Protein RNA-Mediated Potato Virus Y Resistance in Tobacco Plants

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Total viral RNA was purified from potato virus Y-necrotic strain (PVY-VN) which was isolated from *Nicotiana tabacum* var. Burley 21. Coat protein (CP) cDNA fragment which has starting and termination codons, was synthesized by RT-PCR. PVY CP cDNA was manipulated to untranslatable form by mega-primer PCR method and confirmed by DNA sequencing. The untranslatable CP cDNA was inserted to plant expression vector (pPEV-6) and was transformed to *Nicotiana tabacum* cv. NC82 by *Agrobacterium*-mediated transformation. The untranslatable PVY CP cDNA transformed plants were regenerated on MS media containing 100 ppm kanamycin. Highly resistant plants to the PVY were selected based on symptom development after mechanical inoculation in a greenhouse. By the genomic PCR and Southern blot hybridization, it was confirmed that the untranslatable CP cDNA fragments were integrated into the genome of transformed tobacco plants which showed high resistance to PVY-VN with one to three copies of the transgene.

F803 Isolation and Molecular Characterization of a Ribosomal Protein L27 Gene in *Petunia Hybrida*

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A cDNA clone was isolated from a petunia (*Petunia hybrida*) cDNA library derived from cultures of petal protoplasts. DNA sequence analysis and database search revealed that the transcript encodes ribosomal (r)-protein L27. It contains an open reading frame corresponding to a protein of 150 amino acids whose molecular weight is 16,600 daltons. The deduced amino acid sequences of the clone is 65-80% identical with arabidopsis, yeast, human. When the genomic DNA from petunia was digested with EcoRI, HindIII and XbaI which have no recognition sites in the cloned cDNA, two to three bands were hybridized in each digest. These hybridization patterns suggested that there might exist a multigene family encoding these clones. Transcript levels of this gene was high in vegetative organ in particular young roots, stems while low in reproductive organ(stamen, and pistil). Also the transcript strongly expressed in early stage of flower development. This results indicate that r-proteins in plant are differentially regulated in various tissues and developmental stage.