

ABSTRACT

This invention provides plant arabinogalactan proteins (AGPs) and their genes. AGPs were isolated from *Nicotiana alata*, *Nicotiana plumbaginifolia*, and *Pyrus communis*. Amino acid sequences of isolated AGP peptide molecules are presented. Isolated AGP molecules were used to synthesize oligonucleotide probes to prepare oligonucleotide primers for PCR or prepare RNA probes to screen cDNA libraries of *N. alata*, *N. plumbaginifolia*, and *P. communis*. cDNA clones encoding amino acid sequences of isolated AGP molecules were isolated. The invention presents for the first time an intact AGP amino acid sequence derived from a corresponding AGP gene. The instant invention further provides methods useful in obtaining AGP genes encoding an AGP peptide comprising a specific isolated hydroxyproline-rich (OAST-rich) sequence or a specific isolated hydroxyproline-poor sequence.

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