

Changes in Phenylalanine Ammonia-lyase Activity and Gene Expression during Storage of Asparagus Spears

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Z. Naturforsch. **60c**, 128–132 (2005); received October 20/November 11, 2004

A cDNA clone coding phenylalanine ammonia-lyase (PAL) was isolated from a cDNA library prepared from asparagus spears (*Asparagus officinalis* L. cv. Welcome) using the reverse transcription-polymerase chain reaction (RT-PCR). The partial cDNA clone encoded an mRNA of 527 bp and the derived amino acid sequence was found highly homologous to PAL from rice, maize and barley. Northern blot analysis showed an increase of pAS-PAL mRNA until 24 h at 20 °C, which coincided well with PAL activity and fiber development, suggesting that the increase is a response to the wounding associated with harvest.

Key words: Asparagus Spear, Gene Expression, Phenylalanine Ammonia-lyase