Abstract:

Ethylene responsive genes from peach (Prunus persica (L.) Batsch) were isolated by differential screening of a cDNA library constructed from abscission zones in which cell separation had been evoked by treatment with the ethylene analogue propylene. DNA and deduced protein sequences of four selected clones, termed as Prunus persica Abscission zone (PpAz), revealed homology to thaumatin-like proteins (PpAz8 and PpAz44), to proteins belonging to the PR4 class of pathogenesis related (PR) proteins (PpAz89), and to fungal and plant beta-D-xylosidases (PpAz152). Expression analyses conducted on embryoctomized and CEPA treated fruitlets as well as on fruit explants have shown that PpAz8, PpAz44 and PpAz89 are preferentially transcribed in the cells of the fruit abscission zone rather than in the non-zone tissues. PpAz152 transcript showed a different accumulation pattern being consistently and promptly induced by wounding and only slightly stimulated by propylene.