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Program and Abstracts
Expression of Ole e 3 allergen in the mature pollen grain of olive (*Olea europea* L.)

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Ole e 3 is a 9.2 kDa polypeptide involved in allergy, which contains a Ca²⁺ binding motif and belongs to a widespread family of pollen proteins called pcalcins (Batacero *et al.*, *Eur J Biochem* 1996, 241:772-8).

In order to obtain clues regarding the function of this protein in olive pollen, we have analyzed the presence of both the allergen and its transcripts in the mature pollen grain. RT-PCR analysis during pollen development shows the transcripts to be exclusively present in the mature pollen stage; therefore, Ole e 3 corresponds to a “late gene”. No significant differences were found in the relative amount of transcripts nor in the polypeptide itself present in the pollen grain of eight olive cultivars original from different locations and displaying different agronomical characteristics (Picual, Frantoio, Manzanilla, Picudo, Lucio, Lealma, Arbequina and Gordal). TEM immunolocalization in the mature pollen by using a polyclonal antibody to the allergen shows the protein in association to the endoplasmic reticulum, and in the aperture. Ole e 3 transcripts present in the mature pollen were detected by using a recently described method for non radioactive TEM in situ RT-PCR. Transcripts were widely distributed in the cytoplasm of the vegetative cell, and in the nucleus of both the vegetative and the generative cell. The results presented here will be discussed in terms of their significance for pollen physiology.

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