

***ERF16*, A JA-INDUCED AP2/ERF TRANSCRIPTION FACTOR OF  
*ARABIDOPSIS THALIANA***

PARLANTI S.\*, GIUNTOLI B.\*, DROGE-LASER W.\*\*\*, WEISTE C.\*\*\*, PERATA P.\*,  
LICAUSI F.\*

\*) PlantLab-Scuola Superiore Sant'Anna, Pisa (Italy)

\*\*) Albrecht-von-Haller-Institut, Universitat Gottingen (Germany)

*Methyl jasmonate, wounding stress, Arabidopsis thaliana, ERF (Ethylene-Responsive Factor)*

We identified *ERF16* (Ethylene-Responsive Factor 16) as a jasmonate- and wounding-inducible gene. *ERF16* encodes a member of the A-5 subfamily (group II) of AP2/ERF transcription factor family, whose function has not been investigated so far. In wild-type (Col-0) plants, the gene was predominantly expressed in roots and flower stems but poorly expressed in leaves. Two *ERF16* homologs, *ORA47* and *At1g19210*, displayed similar expression patterns in different Arabidopsis organs, in response to abiotic stress conditions and in the presence of exogenous phytohormones. We placed the three Group II ERFs along the jasmonate signaling pathway using the Arabidopsis *coi1-16* mutant. Only *ERF16* was found to rely on COI1 for induction by jasmonates, indicating that the three Group II ERFs do not all participate to the same signaling pathway and only *ERF16* can be placed in the COI1-dependent pathway. A T-DNA insertion in the genomic region upstream of *ERF16* caused up-regulation of the gene itself and other MeJA-responsive genes confirming that *ERF16* plays a role in the jasmonate signaling pathway.