The involvement of jasmonates and ethylene in *Alternaria alternata* f. sp. *lycopersici*-toxin-induced tomato cell death

Liping Zhang, Chengguo Jia, Lihong Liu, Zhiming Zhang, Chuanyou Li, Qiaomei Wang

Supplemental material

Figure S1. Effects of MeJA on the sensitivity of tomato leaf discs to AAL-toxin. [a] Different concentrations of the toxin solutions containing 100 μM of MeJA or 0.01% ethanol (control) were added into petri plates. Leaf discs (12 mm in diameter) were cut from leaves of CA (cv. Castlemart) and *def1* plants and placed in petri plates and incubated at 25 ℃ for 4 days under fluorescent light. Necrotic symptoms on the leaves were observed after treatment for 4 days.

Figure S2. The plants of *spr2*, *def1*, *35S::prosys*, and *jai1* as well as their parental line cultivar Castlemart (CA) used in this study. There are no differences in phenotype among 3 JA mutants, a *35S::prosys* transgenic line, and their parental line CA. All experiments were carried out using fully expanded leaflets from nodes 4 to 6 (except for the terminal leaflets) of 7-week-old tomato plants.

Figure S3. Treatment method of detached tomato leaflets. Four excised leaflets from individual plants were incubated on one filter paper in one petri plate containing 4 ml water or 0.2 μM AAL-toxin under continuous light at 25 ℃ for 48 h. Treatment of detached leaflets with leaf face upwards and the petioles are closely in contact with filter papers. In all the experiments unless otherwise stated, we treated the detached leaflets with distilled H_2O instead of 0.2 μM AAL-toxin as controls. To assess the effect of exogenous chemicals treatment on AAL-toxin-induced PCD, AAL-toxin was dissolved in various chemical solutions.

Figure S4. Relative conductivity in leaflets of cv. CA, cv. PSN, *spr2*, *jai1*, *35S::prosys*, and *Nr* was measured after different concentrations of exogenous JA, STS, or ACC treatment for 48 h. (A) Relative conductivity in CA and *spr2* leaflets after treatment with different concentrations of JA. (B) Relative conductivity in leaflets of CA and *35S::prosys* after treatment with different concentrations of STS. (C) Relative conductivity in leaflets of CA, *spr2*, and *jai1* after treatment with different concentrations of ACC. (D) Relative conductivity in PSN and *Nr* leaves after treatment with different concentrations of exogenous JA. Error bars indicate standard deviation. For each figure, letters indicate significant differences among treatments ($P < 0.05$, Duncan's multiple-range test).

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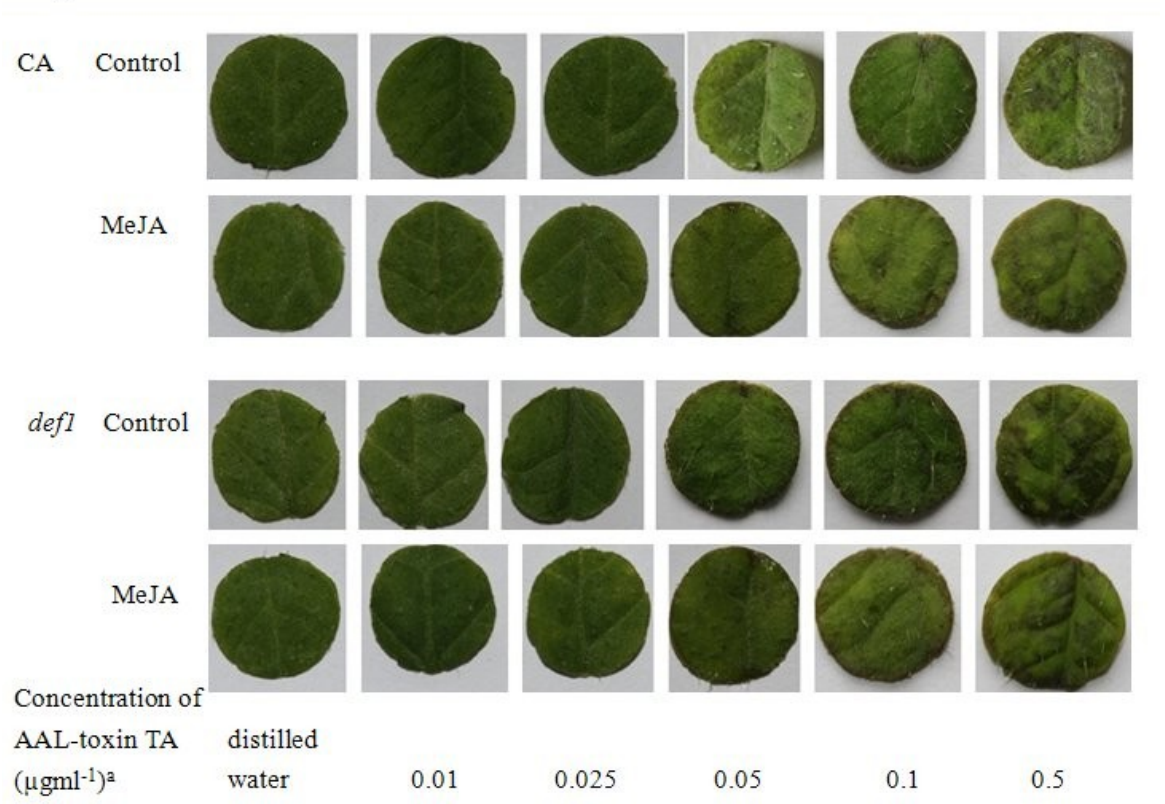

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