

XOPAC-MEDIATED RESISTANCE TO *XANTHOMONAS* IN ARABIDOPSIS

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Xanthomonas campestris pv. *campestris* (*Xcc*) is a bacterial vascular pathogen causing black rot of Brassicaceae crops as well as of the model plant Arabidopsis. The XopAC/AvrAC type III effector present in a majority of *Xcc* strains contributes to pathogenicity but also confers strong avirulence to *Xcc* on the Arabidopsis ecotype Col-0. XopAC interacts with and inhibits by uridylylation several members of the family VII of Receptor-Like Cytoplasmic Kinases (RLCK) important for PTI (PAMP-triggered immunity) and/or ETI (Effector-triggered immunity) such as BIK1 (*Botrytis*-Induced Kinase 1) and RIPK (RIN4-interacting receptor-like protein kinase). Interestingly, *ripk* and *pbl2* RLCKVII mutants are susceptible to *Xcc* expressing *xopAC*. In addition, *in planta* expression of *xopAC* in transgenic Col-0 plants causes early upregulation of plant defense genes expression and ultimately results in seedling growth arrest and chlorosis. Four *sxc* mutants (suppressors of *xopAC*) able to revert this phenotype were identified in a suppressor screen and three of these *sxc* mutants also loose resistance to *Xcc* expressing *xopAC*. Map-based cloning of *sxc* mutations using Next-Generation Sequencing allowed the identification of two new players in XopAC-triggered immunity, including a canonical Resistance (R) protein. Thus, this work presents the first components of *R* gene-mediated resistance to *Xanthomonas* in Brassicaceae plants.

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