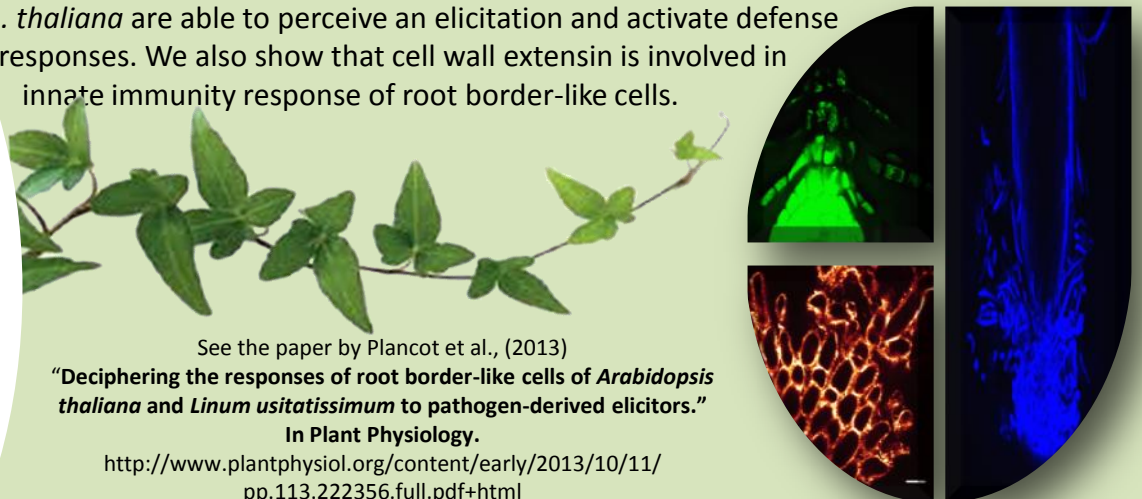


Do you know ...

... that root border-like cells of *Arabidopsis thaliana* and flax are required for plant protection.

Root *Arabidopsis thaliana* and flax root tips release cells known as “root border-like cells” in the rhizosphere. Due to their particular location at the interface between root and soil, one can speculate that these cells are crucial in root-microbe interaction. However the function of root-border-like cells has not been studied so far.

For the first time, we have investigated the responses of root border-like cells of *Arabidopsis* and flax to the Microbe Associated Molecular Pattern (MAMP) flagellin 22 and peptidoglycan. Both MAMPs triggered a rapid oxidative burst in root border-like cells and deposition of callose a well-known marker of plant defense against pathogens. Furthermore, modifications in the cell wall distribution of extensin epitopes also occurred. Extensins are hydroxyproline-rich glycoproteins that enhance the mechanical strength of the cell wall. In addition flagellin 22 induced over-expression of genes involved in the plant immune response in root border-like cells of *A. thaliana*. Our findings demonstrate that root border-like cells of flax and *A. thaliana* are able to perceive an elicitation and activate defense responses. We also show that cell wall extensin is involved in innate immunity response of root border-like cells.



See the paper by Plancot et al., (2013)
“Deciphering the responses of root border-like cells of *Arabidopsis thaliana* and *Linum usitatissimum* to pathogen-derived elicitors.”
 In Plant Physiology.

<http://www.plantphysiol.org/content/early/2013/10/11/pp.113.222356.full.pdf+html>

Responsables scientifiques :

Pr A. Driouich

Glyco-MEV, EA 4358

Université de Rouen

76821 Mont-Saint-Aignan cedex

azeddine.driouich@univ-

rouen.fr

Dr K. Laval

Directeur de la recherche

ESITPA

3, rue du Tronquet

76134 Mont-Saint-Aignan cedex

klaval@esitpa.org

