
# IRN-FJFPB

## Webinar « Cell biology & signal transduction »

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**Suppressor of actin 9 (*sac9*) mutant underlines the interplay between membrane composition and cytoskeleton dynamics during plant cytokinesis**

Abstract

Cell division is a common mechanism to eukaryotic species important for cell renewal, growing and tissue expansions. This highly regulated mechanism ends with a complete physical separation of the mother cell into two daughter cells. In plant cells, cytokinesis is characterized as a dynamic process of membrane trafficking and cytoskeletal rearrangement involving a membrane precursor, the cell plate, and a microtubules and actin bipolar structure, the phragmoplast. Here we aim to characterize SAC9, a lipid converting enzyme, as a new class of cytokinetic mutant underlying the interplay between cell plate composition and the phragmoplast dynamic in *Arabidopsis thaliana* dividing root cells. Unlike all reported defects in cytokinesis mutants (abortive cell plate and miss-guidance of phragmoplast), we uncover in *sac9* mutant the formation of unique enclose “pyramidal” compartments derived from an over-functional cytokinesis process and we link these defects to an abnormal lipid composition of the cell plate.