



POST-SYNTHETIC CELL WALL MODIFICATIONS TO STUDY CELL WALL INTEGRITY SIGNALLING INVOLVED IN PLANT STRESS RESPONSES

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The existence of cell wall integrity (CWI) signaling in plants has been demonstrated, but little is known about the actual signaling pathways involved. CWI is maintained through a highly dynamic balance between cell wall biosynthesis involving a broad spectrum of synthetic enzymes localized in Golgi and cell wall post-synthetic modifications involving a similarly broad spectrum of hydrolytic enzymes localized in plant apoplast or secreted by plant-invading organisms. Hydrolytic enzymes are the key components involved in cell wall remodeling, the main process involved in cell wall adjustments during plant development and response to environmental cues. We have created a set of homozygous *Arabidopsis* and *Brachypodium* transgenic lines expressing different specific microbial glycosyl hydrolases or esterases and characterized their cell walls. These transgenic plants represent a toolset that provides a new approach to study CWI signalling.

