Another Brick in the Wall: Regulating Cell Wall Synthesis in Plants

Plant cell walls are diverse and highly dynamic structures that respond to developmental and environmental cues. We are studying the signaling pathways involved in regulating the assembly of the cell wall. I will describe a signaling pathway regulating cell wall synthesis that includes a pair of receptor-like kinases, SHOU4 (a novel transmembrane protein), and ACC acting as a signal independent of its conversion to ethylene. Our studies suggest that this pathway regulates the trafficking to the plasma membrane of the enzyme complex responsible for the synthesis of cellulose.