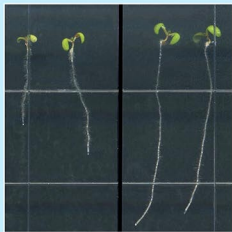


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sch Mutant (right) and *arr3,4,8,9* Parent (left)
Arabidopsis seedlings

Suppressor Screen for New Components of the Cytokinin Signaling Pathway in *Arabidopsis thaliana*

Cytokinin is a plant hormone that plays key roles in regulating several aspects of growth and development, including nutrient uptake, cell division, shoot initiation, and leaf senescence. The framework of the cytokinin signal transduction pathway in plants involves a slightly modified version of a two-component phosphorelay system. Type-A *ARABIDOPSIS* RESPONSE REGULATORS (*ARRs*) are negative regulators of this pathway. A quadruple type-A *arr* loss-of-function mutant, *arr3,4,8,9*, is hypersensitive to cytokinin and displays a short root phenotype when subjected to low levels of cytokinin. In order to identify novel components of the cytokinin signaling pathway, a suppressor screen was employed. Mutagenized *arr3,4,8,9* progeny pools were screened for *suppressors of cytokinin hypersensitivity (sch)*. To date, 376 putative suppressor mutants have been identified, and so far, 89 of the 180 putative mutants tested have exhibited excess root elongation compared to the *arr3,4,8,9* parent. DNA libraries have been constructed for seven of the eight mutants exhibiting the most extreme suppressor phenotype, and will be utilized for bulked segregant analysis. Future directions include continued confirmation of putative mutant lines, as well as mapping of causative mutations for the suppressor phenotype.