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Insights: Publications

The *sugar-insensitive1* (*sis1*) Mutant of *Arabidopsis* Is Allelic to *ctr1*

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Soluble sugar levels affect a diverse array of plant developmental processes. For example, exposure to high levels of glucose or sucrose inhibits early seedling development of Arabidopsis thaliana (L.) Heynh. Media-shift experiments indicate that Arabidopsis seedlings lose their sensitivity to the inhibitory effects of high sugar levels on early development within approximately two days after the start of imbibition. The sugar-insensitive1 (sis1) mutant of Arabidopsis was isolated by screening for plants that are insensitive to the inhibitory effects of high concentrations of sucrose on early seedling development. The sis1 mutant also displays glucose and mannose resistant phenotypes and has an osmo-tolerant phenotype during early seedling development. The sis1 mutant is resistant to the negative effects of paclobutrazol, an inhibitor of gibberellin biosynthesis, on seed germination. Characterization of the sis1 mutant revealed that it is allelic to ctr1, a previously identified mutant with a constitutive response to ethylene.