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Cytokinin-induced metabolic redirection

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Cytokinins are key triggers for the growth and differentiation of plant cells. We have generated a transgenic line of Arabidopsis that carries a rice hemoglobin promoter fused to GUS. Earlier research has indicated that this promoter is very responsive to cytokinins. We are utilizing this line to understand the global and local responses of gene-expression to exogenously applied cytokinins. In addition, we have cloned and have started to characterize two gene products of as yet unknown functions that are dramatically up-regulated or down-regulated in response to cytokinins. Data from microarray analyses will be discussed in relation to potential metabolic redirection that can occur in plant tissues in response to cytokinins. This project was partially supported by NIH Grant Number 1 P20 RR16469 from the BRIN Program of the National Center for Research Resources and the USDA-ARS. Uyen Chu is a recipient of undergraduate research fellowships through the UCARE and McNair programs of UN-Lincoln.