

## **Cytokinin-regulated signal transduction and gene regulation: Mechanistic details and possible applications**

Abstrakt:

Although the players of the cytokinin signaling network have been identified, details of its mode of action remain to be elucidated. In particular, the mode of action and the role of the phosphorylation of the type-A response regulators mediating the negative feedback loop within the cytokinin signaling network is unknown. Likewise, the temporal dynamics of the feedback loop and the response of the system to a sudden drop of cytokinin concentrations as experienced by all cells exiting the shoot apical meristem is uncharacterized. Approaches to address these open questions will be proposed.

In the recent years, a number of tools to modify the cytokinin status have been developed. Modification of the cytokinin status are particularly interesting in growing tissues of outstanding agronomical importance, aiming to improve yield. One of these tissues is the developing endosperm. A plan to explore the consequences of a modified cytokinin status in the developing endosperm of monocot crops on yield-relevant parameters will be presented.

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