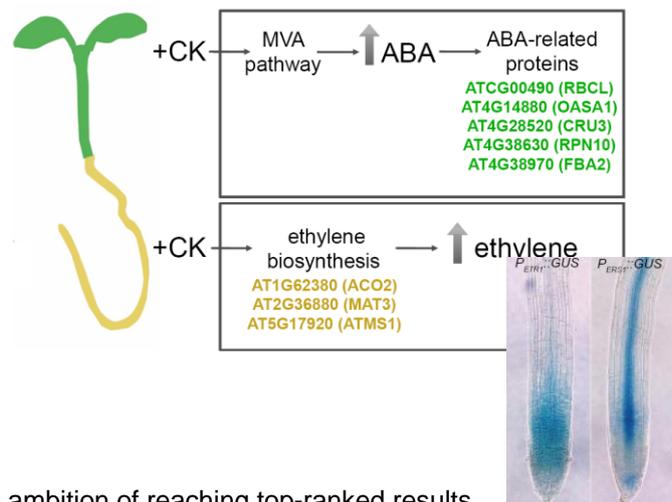


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Study of molecular mechanisms of CK-ethylene crosstalk in the regulation of *Arabidopsis* development

In our lab we are interested in the study of plant hormonal signaling pathways, particularly cytokinins (CKs) in the development of model plant *Arabidopsis thaliana* (1-3). CK signaling is mediated via what is called multistep phosphorelay signaling (MSP). Crosstalk of CKs and ethylene was previously reported in the CK-mediated regulation of plant development. We have recently found that CKs strongly modulate ethylene biosynthesis specifically in the root of *Arabidopsis* (4). Ethylene is recognized by the family of sensor histidine kinases, acting also as CK receptors; however, the role of MSP in the ethylene signaling is still unclear. Our preliminary results suggest interaction of ethylene and CK signaling and its functional importance in the regulation of *Arabidopsis* development. The aim of this work that will be performed in frame of the project supported by the Czech Science Foundation is to use genetics and molecular biology approaches in the analysis of molecular mechanisms of those interactions and to identify the importance of CK-ethylene crosstalk in the regulation of *Arabidopsis* development.



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