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## INTENSITY OF WHITE LIGHT MODULATES PHOSPHOPROTEOME DYNAMICS IN RESPONSE TO CYTOKININ TREATMENT IN *ARABIDOPSIS*

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### ABSTRACT

In plants, cytokinins (CKs) have been implicated in many developmental processes and responses to environmental cues. Light and CK signaling are intertwined at several levels, and the underlying molecular mechanisms are being actively researched. To get an insight into the modulation of CK action by quantity of white light at the phosphoproteomic level, we employed phosphoproteome isolation followed by 2-DE and image analysis to compare changes in phosphoproteome dynamics in *Arabidopsis thaliana* seedlings in response to CK treatment at standard ( $90 \mu\text{mol m}^{-2} \text{s}^{-1}$ ) and decreased ( $20 \mu\text{mol m}^{-2} \text{s}^{-1}$ ) white light intensities. We followed phosphoproteomic changes in course of 2, 6 and 15 minutes intervals of CK treatment. 34 differentially expressed phosphoprotein spots (representing about 8 % of detected spots) were found. Out of the 34 phosphoprotein spots, 5 were regulated in a comparable fashion at both light intensities, while opposing regulation was found for 15 phosphoprotein spots at the two light intensities. 3 phosphoprotein spots were differentially regulated at only standard or decreased light intensity, respectively.

**Key words:** cytokinin, phosphorylation, posttranslation modification

**Acknowledgments:** This work was supported by the Internal Grant Agency of the Faculty of Agronomy of the Mendel University in Brno, Czech Republic (IGA 2/2010), the Ministry of Education of the Czech Republic (1M06030), and the Grant Agency of the Academy of Sciences of the Czech Republic (IAA600040701).