P9

Function of KRP Gene Family in Leaf Morphogenesis

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As plants grow, cell division plays an important role in normal development and appropriate shape. Recently, inhibitors of cyclin-CDK complexes have been characterized. There are 7 inhibitors (KRPs) of cyclin-CDK complexes in Arabidopsis. To investigate how KRPs affects leaf morphology, we have characterized the function of KRPs by using transgenic plants overexpressing KRPs. In this study, common phenotypes of each transgenic plant which overexpresses KRPs, such as reuced size of whole plant, reduced size and serration of leaves and floral organs, production of small siliques with fewer seed, and reduced number and increased size of cell, were characterized. Interestingly, transgenic plants overexpressing KRP6 have bifurcate leaves with serration, rolling up phenotype, and leaves with curvature. We will discuss about the role of KRPs in leaf morphogenesis.

P10

Genetic and Biochemical Analysis of Elongator-associated Protein and AtELPs

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Early leaf development relies on the control of leaf formation in the flanking region of shoot apical meristem (SAM), as well as on changes in the rates and planes of cell division and the polarity-dependent differentiation of leaf cells. Our previous study revealed that *DRL1* is involved in the regulation of SAM activity and leaf differentiation. The *DRL1* encode a novel protein showing homology to Elongator-associate protein (EAP) of yeast KTI12, a subunit of Elongator complex. The expression of *DRL1* of *Arabidopsis* can complement KTI12, suggesting that DRL1 may act as an EAP in higher organism. Here, we characterize and discuss the function of EAP, as well as Elongator subunit (AtELPs) of *Arabidopsis*.