COMMENTARY

Returning to Our Roots: Making Plant Biology Research Relevant to Future Challenges in Agriculture

Steven J. Rothstein

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RESEARCH ARTICLES

Oryza sativa Dicer-like4 Reveals a Key Role for Small Interfering RNA Silencing in Plant Development

Bin Liu, Zhiyu Chen, Xianwei Song, Chunyan Liu, Xia Cui, Xianfeng Zhao, Jun Fang, Wenyong Xu, Huiyong Zhang, Xijie Wang, Chengcai Chu, Xingwang Deng, Yongbiao Xue, and Xiaofeng Cao

The Arabidopsis BEL1-LIKE HOMEODomain Proteins SAW1 and SAW2 Act Redundantly to Regulate KNOX Expression Spatially in Leaf Margins

Ravi Kumar, Kumuda Kushalappa, Dietmute Godt, Mark S. Pidkowich, Sandro Pastorelli, Shelley R. Hepworth, and George W. Haughn

The GIGANTEA-Regulated MicroRNA172 Mediates Photoperiodic Flowering Independent of CONSTANS in Arabidopsis

Jae-Hoon Jung, Yeon-Hee Seo, Pil Joon Seo, Jose Luis Reyes, Ju Yun, Nam-Hai Chua, and Chung-Mo Park

Nucleocytoplasmic Shuttling of BZR1 Mediated by Phosphorylation Is Essential in Arabidopsis Brassinosteroid Signaling

Hojin Ryu, Kangmin Kim, Hyunwoo Cho, Joonghyuk Park, Sunghwa Choe, and Ildoo Hwang

ON THE COVER

In animals, members of the ORBIT/MAST/CLASP family of microtubule-associated proteins associate with the plus ends of microtubules. Known functions include promoting the addition of tubulin subunits into attached kinetochore fibers during mitosis and stabilizing microtubules in the vicinity of the plasma membrane during interphase. Ambrose et al. (pages 2763–2775) show that the CLASP ortholog in plant cells localizes to microtubules at all stages of the cell cycle and shows enrichment at the growing plus ends. CLASP most likely contributes to cell division, cell expansion, organ morphology, and axial extension in plants through its role in stabilizing microtubules. The cover image highlights microtubule arrays at key stages of the cell cycle in epidermal cells of an Arabidopsis root tip. Ambrose et al. report on the consequences of knocking out CLASP at each of these stages.
The Arabidopsis CLASP Gene Encodes a Microtubule-Associated Protein Involved in Cell Expansion and Division

J. Christian Ambrose, Tsubasa Shoji, Amanda M. Kotzer, Jamie A. Pighin, and Geoffrey O. Wasteneys

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The Arabidopsis E3 SUMO Ligase SIZ1 Regulates Plant Growth and Drought Responses

Rafael Catala, Jian Ouyang, Isabel A. Abreu, Yuxin Hu, Haksoo Seo, Xiuren Zhang, and Nam-Hai Chua

Online version contains Web-only data.

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