The role of PLTs during root meristem development requires its concentration gradient, which is not only contributed by post-translational regulation such as growth dilution and intercellular movement, but likely also by fine-tuned transcriptional regulation for which not much has been known. Xiong et al. (pages 3812–3824) report that Arabidopsis JANUS positively regulates PLT1 expression in the root meristem by recruiting RNA polymerase II (Pol II) on PLT1 and by interacting with PLT1. JANUS-dependent recruitment of Pol II is inhibited through competitive binding of JANUS by GRF-INTERACTING FACTOR1/ANGUSTIFOLIA3 (GIF1/AN3), a transcriptional co-factor negatively regulating PLT1 expression. Finally, GIF1 and JANUS, the antagonistic regulators of PLT1, both depend on Arabidopsis IMPORTIN β4 (IMB4) for their nuclear accumulation. From top to bottom: the expression pattern of IMB4, JANUS, PLT1, and PLT1 in pseudocolors reflecting signal intensity.
BREAKTHROUGH REPORT

Soybean DICER-LIKE2 Regulates Seed Coat Color via Production of Primary 22-Nucleotide Small Interfering RNAs from Long Inverted Repeats

Jinbu Jia, Ronghuan Ji, Zhuowen Li, Yiming Yu, Mayumi Nakano, Yanping Long, Li Feng, Chao Qin, Dongdong Lu, Junpeng Zhan, Rui Xia, Blake C. Meyers, Bin Liu, and Jixian Zhai

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ARADEEPOPSIS, an Automated Workflow for Top-View Plant Phenomics using Semantic Segmentation of Leaf States

Patrick Hüther, Niklas Schandry, Katharina Jandrasits, Ilja Bezrukov, and Claude Becker

Alternative Crassulacean Acid Metabolism Modes Provide Environment-Specific Water-Saving Benefits in a Leaf Metabolic Model

Nadine Töpfer, Thomas Braam, Sanu Shameer, R. George Ratcliffe, and Lee J. Sweetlove

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Cristina Castillejo, Veronika Waurich, Henning Wagner, Rubén Ramos, Nicolás Oiza, Pilar Muñoz, Juan C. Triviño, Julie Caruana, Zhongchi Liu, Nicolás Cobo, Michael A. Hardigan, Steven J. Knapp, José G. Vallarino, Sonia Osorio, Carmen Martín-Pizarro, David Posé, Tuomas Toivainen, Timo Hytönen, Youngjae Oh, Christopher R. Barbey, Vance M. Whitaker, Seonghee Lee, Klaus Olbrich, Jose L. Sánchez-Sevilla, and Iraida Amaya

Ectopic Expression of the Transcriptional Regulator silky3 Causes Pleiotropic Meristem and Sex Determination Defects in Maize Inflorescences

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SPIKE1 Activates the GTPase ROP6 to Guide the Polarized Growth of Infection Threads in Lotus japonicus

Jing Liu, Miao Xia Liu, Li Ping Qiu, and Fang Xie

SAUR17 and SAUR50 Differentially Regulate PP2C-D1 during Apical Hook Development and Cotyledon Opening in Arabidopsis

Jiajun Wang, Ning Sun, Fangfang Zhang, Renbo Yu, Haodong Chen, Xing Wang Deng, and Ning Wei

Transcriptional Regulation of PLETHORA1 in the Root Meristem Through an Importin and Its Two Antagonistic Cargos

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Xin Wang, Chunliu Zhuo, Xirong Xiao, Xiaoliang Wang, Maite Docampo-Palacios, Fang Chen, and Richard A. Dixon
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CORRECTION


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