Arabidopsis thaliana produces determinate flowers, meaning that it develops a fixed number of whorls and parts per whorl, and internodes between whorls do not elongate. Prunet et al. (pages 901–919) show that floral axis termination and compression is influenced redundantly by REBELOTE (a protein of unknown function), SQUINT (a cyclophilin), ULTRAPETALAL1 (a putative transcription factor), and CRABS CLAW (a carpel identity gene) through pathways dependent on AGAMOUS and SUPERMAN. The cover image illustrates one example of the floral indeterminacy phenotype described by the authors, here caused by combined mutations of CRABS CLAW and SQUINT. In this mutant, a floral axis grows inside the primary carpels and breaks through, while producing reiterated stamens and carpels as whorls separated by elongated internodes.
Interaction of KNAT6 and KNAT2 with BREVIPECCELLUS and PENNYWISE in Arabidopsis Inflorescences

Laura Ragni, Enric Belles-Boix, Markus Günli, and Véronique Pautot

REBELOTE, SQUINT, and ULTRAPETALA1 Function Redundantly in the Temporal Regulation of Floral Meristem Termination in Arabidopsis thaliana

Nathanàl Prunet, Patrice Morel, Anne-Marie Thierry, Yuval Eshed, John L. Bowman, Ioan Negruțiu, and Christophe Trehin

HD-ZIP III Activity Is Modulated by Competitive Inhibitors via a Feedback Loop in Arabidopsis Shoot Apical Meristem Development

Youn-Sung Kim, Sang-Gyu Kim, Minsun Lee, Ilha Lee, Hye-Young Park, Pil Joon Seo, Jae-Hoon Jung, Eun-Jung Kwon, Se Won Suh, Kyung-Hee Paek, and Chung-Mo Park

The Receptor Kinase CORYNE of Arabidopsis Transmits the Stem Cell–Limiting Signal CLAVATA3 Independently of CLAVATA1

Ralf Müller, Andrea Bleckmann, and Rüdiger Simon

Distinct Light-Initiated Gene Expression and Cell Cycle Programs in the Shoot Apex and Cotyledons of Arabidopsis


Phosducin-Like Protein 3 Is Required for Microtubule-Dependent Steps of Cell Division but Not for Meristem Growth in Arabidopsis

M. Mar Castellano and Robert Sablowski

Analysis of Cortical Arrays from Tradescantia virginiana at High Resolution Reveals Discrete Microtubule Subpopulations and Demonstrates That Confocal Images of Arrays Can Be Misleading

Deborah A. Barton, Marylin Vantard, and Robyn L. Overall

Arabidopsis SCARs Function Interchangeably to Meet Actin-Related Protein 2/3 Activation Thresholds during Morphogenesis

Chunhua Zhang, Eileen L. Mallory, Jessica Schlueter, Shanjin Huang, Youran Fan, Steven Brankle, Christopher J. Staiger, and Daniel B. Szymanski

Minor Antenna Proteins CP24 and CP26 Affect the Interactions between Photosystem II Subunits and the Electron Transport Rate in Grana Membranes of Arabidopsis

Silvia de Bianchi, Luca Dall’Osto, Giuseppe Tognon, and Roberto Bassi

Thylakoid Membrane Remodeling during State Transitions in Arabidopsis

Silvia G. Chuartzmann, Reinať Nevo, Eyal Shimony, Dana Charuvi, Vladimir Kiss, Izhak Ohad, Vlad Brumfeld, and Ziv Reich

β-AMYLASE4, a Noncatalytic Protein Required for Starch Breakdown, Acts Upstream of Three Active β-Amylases in Arabidopsis Chloroplasts

Daniel C. Fulton, Michaela Stettler, Tabea Mettler, Carla K. Vaughan, Jing Li, Perigio Francisco, Manuel Gil, Heike Reinhold, Simona Eicke, Gaëlle Messerli, Gary Dorken, Karen Halliday, Alison M. Smith, Steven M. Smith, and Samuel C. Zeeman

The Structure of Sucrose Phosphate Synthase from Halothemothrix orreni Reveals Its Mechanism of Action and Binding Mode

Teck Khiang Chua, Janusz M. Bujnicki, Tien-Chye Tan, Frederick Huynh, Bharat K. Patel, and J. Sivaraman

Functional and Physiological Characterization of Arabidopsis INOSITOL TRANSPORTER1, a Novel Tonoplast-Localized Transporter for myo-Inositol

Sabine Schneider, Diana Beyhl, Rainer Hedrich, and Norbert Sauer

Reduced V-ATPase Activity in the trans-Golgi Network Causes Oxylipin-Dependent Hypocotyl Growth Inhibition in Arabidopsis

Angela Y. Xu, Tzu-Yin Liu, Melanie Krieb, York-Dieter Stierhof, Jan U. Lohmann, Otto Miersch, Claus Wasternack, and Karin Schumacher

Analysis of the Arabidopsis Histidine Kinase ATHK1 Reveals a Connection between Vegetative Osmotic Stress Sensing and Seed Maturation

Dana J. Wohlbach, Betania F. Quirino, and Michael R. Sussman
Conserved C-Terminal Motifs Required for Avirulence and Suppression of Cell Death by Phytophthora sojae effector Avr1b

Daolong Dou, Shiv D. Kale, Xinle Wang, Yubo Chen, Qunqing Wang, Xia Wang, Ryan G. Anderson, Poulami B. Thakur, John M. McDowell, Yuanchao Wang, and Brett M. Tyler

Activated Expression of an Arabidopsis HD-START Protein Confers Drought Tolerance with Improved Root System and Reduced Stomatal Density

Hong Yu, Xi Chen, Yuan-Yuan Hong, Yao Wang, Ping Xu, Hai-Yan Liu, Jian-Kang Zhu, David J. Oliver, and Cheng-Bin Xiang

Identification and Regulation of TPS04/GES, an Arabidopsis Geranyllinalool Synthase Catalyzing the First Step in the Formation of the Insect-Induced Volatile C16-Homoterpene TMTT

Marco Herde, Katrin Gätter, Tobias G. Köllner, Benjamín Fode, Wilhelm Boland, Jonathan Gershenzon, Christiane Gatz, and Dorothea Tholl

Fungal Effector Protein AVR2 Targets Diversifying Defense-Related Cys Proteases of Tomato

Mohammed Shabab, Takayuki Shindo, Christian Gu, Farnusch Kaschani, Twinkal Pansuriya, Tom Colby, Sophien Kamoun, and Renier A.L. van der Hoorn

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