IN BRIEF

Finding Dt2, the Dominant Gene That Specifies the Semideterminate Growth Habit in Soybean
Jennifer Lockhart

Unexpected Structure of Plant Promoters
Nancy A. Eckardt

Observe Them in Their Native Habitat: Atomic Force Microscopy of Photosynthetic Complexes in Thylakoid Membranes
Nancy R. Hofmann

Boron Transport in Maize
Jennifer Mach

LARGE-SCALE BIOLOGY ARTICLES

Inference of Transcriptional Networks in Arabidopsis through Conserved Noncoding Sequence Analysis
Jan Van de Velde, Ken S. Heyndrickx, and Klaas Vandepoele

Paired-End Analysis of Transcription Start Sites in Arabidopsis Reveals Plant-Specific Promoter Signatures
Taj Morton, Jalean Petricka, David L. Corcoran, Song Li, Cara M. Winter, Alexa Carda, Philip N. Benfey, Uwe Ohler, and Molly Megraw

RESEARCH ARTICLES

Evolution of the BBAA Component of Bread Wheat during Its History at the Allohexaploid Level
Huakun Zhang, Bo Zhu, Bao Qi, Xiaowan Gou, Yuzhu Dong, Chunming Xu, Bangjiao Zhang, Wei Huang, Chang Liu, Xutong Wang, Chunwu Yang, Hao Zhou, Khalil Kashkush, Moshe Feldman, Jonathan F. Wendel, and Bao Liu

Polyploid Evolution of the Brassicaceae during the Cenozoic Era

Integrated Syntenic and Phylogenomic Analyses Reveal an Ancient Genome Duplication in Monocots
Yuannian Jiao, Jingping Li, Haibao Tang, and Andrew H. Paterson

LIPASE1 is induced by GA in the seed epidermis during germination and plays a role in fueling seedling growth until photosynthetic capacity is acquired. Romboli-Caldentey et al. (pages 2905–2919) show that two HD-ZIP transcription factors, ATML1 and PDF2, play a role in the regulation of epidermal GA signaling. LIP1 is activated by GA due to the release of these HD-ZIP TFs from their inhibitory interaction with DELLLA proteins, an effect that is dependent on the L1-box sequence in the LIP1 promoter. The cover image shows results of in situ mRNA hybridization revealing that PDF2 mRNAs are specifically localized in the epidermis of the embryo axis (dark purple color) during this developmental stage, a location compatible with the proposed regulatory role.
Arabidopsis and Maize RidA Proteins Preempt Reactive Enamine/Imine Damage to Branched-Chain Amino Acid Biosynthesis in Plastids

Thomas D. Niehaus, Thuy N.D. Nguyen, Satinder K. Gidda, Mona ElBadawi-Sidhu, Jennifer A. Lambrecht, Donald R. McCarty, Diana M. Downs, Arthur J.L. Cooper, Oliver Fiehn, Robert T. Mullen, and Andrew D. Hanson

Cytosolic Phosphorylating Glyceraldehyde-3-Phosphate Dehydrogenases Affect Arabidopsis Cellular Metabolism and Promote Seed Oil Accumulation

Liang Guo, Fangfang Ma, Fang Wei, Brian Fanella, Doug K. Allen, and Xuemin Wang

Combined Increases in Mitochondrial Cooperation and Oxygen Photoreduction Compensate for Deficiency in Cyclic Electron Flow in Chlamydomonas reinhardtii

Kieu-Van Dang, Julie Plet, Dimitri Tolleter, Martina Jokel, Stéphan Cuiné, Patrick Carrier, Pascarine Auroy, Pierre Richaud, Xenie Johnson, Jean Afric, Yagut Allahverdiyeva, and Gilles Peltier

Nanodomains of Cytochrome b,f and Photosystem II Complexes in Spinach Grana Thylakoid Membranes

Matthew P. Johnson, Cvetelin Vasilev, John D. Olsen, and C. Neil Hunter

Insights into the Localization and Function of the Membrane Trafficking Regulator GNOM ARF-GEF at the Golgi Apparatus in Arabidopsis

Satoshi Naramoto, Marisa S. Otegui, Natsumaro Kutsuna, Riet de Rycke, Tomoko Dainobu, Michael Karampelias, Masaru Fujimoto, Elena Feraru, Daisuke Miki, Hiroo Fukuda, Akihiko Nakano, and Jiri Friml

Direct Phosphorylation and Activation of a Mitogen-Activated Protein Kinase by a Calcium-Dependent Protein Kinase in Rice

Kabin Xie, Jianping Chen, Qin Wang, and Yinong Yang

Uric Acid Accumulation in an Arabidopsis Urate Oxidase Mutant Impairs Seedling Establishment by Blocking Peroxisome Maintenance

Oliver K. Hauck, Jana Scharnberg, Nieves Medina Escobar, Gerhard Wanner, Patrick Giavalisco, and Claus-Peter Witte

Phylobiochemical Characterization of Class-Ib Aspartate/Prephenate Aminotransferases Reveals Evolution of the Plant Arogenate Phenylalanine Pathway

Camilla Dornfeld, Alexandra J. Weisberg, Ritesh K C, Natalia Dudareva, John G. Jelesko, and Hiroshi A. Maeda

Arabidopsis MSL10 Has a Regulated Cell Death Signaling Activity That Is Separable from Its Mechanosensitive Ion Channel Activity

Kira M. Veley, Grigory Maksaev, Elizabeth M. Frick, Emma January, Sarah C. Kloepper, and Elizabeth S. Haswell

Arabidopsis SNAREs SYP61 and SYP121 Coordinate the Trafficking of Plasma Membrane Aquaporin PIP2;7 to Modulate the Cell Membrane Water Permeability

Charles Hachez, Timothée Laloux, Hagen Reinhardt, Damien Cavez, Hervé Degand, Christopher Grefen, Riet De Rycke, Dirk Inzé, Michael R. Blatt, Eugenia Russinova, and François Chaumont

The Ubiquitous Distribution of Late Embryogenesis Abundant Proteins across Cell Compartments in Arabidopsis Offers Tailored Protection against Abiotic Stress

Adrien Candat, Gaël Paszkiewicz, Martine Neveu, Romain Gautier, David C. Logan, Marie-Hélène Avelange-Macherel, and David Macherey

Closely Related NAC Transcription Factors of Tomato Differentially Regulate Stomatal Closure and Reopening during Pathogen Attack

Minmin Du, Qingzhe Zhai, Lei Deng, Shuyu Li, Hongshuang Li, Lihua Yan, Zhuo Huang, Bao Wang, Hongling Jiang, Tingting Huang, Chang-Bao Li, Jianing Wei, Le Kang, Jinfu Li, and Chuanyou Li
Interaction of the Arabidopsis GTPase RabA4c with Its Effector PMR4 Results in Complete Penetration Resistance to Powdery Mildew

Dorothea Ellinger, Annemarie Glöckner, Jasmin Koch, Marcel Naumann, Vanessa Stürtz, Kevin Schüt, Chithra Manisseri, Shauna C. Somerville, and Christian A. Voigt

The Arabidopsis Malectin-Like Leucine-Rich Repeat Receptor-Like Kinase IOS1 Associates with the Pattern Recognition Receptors FLS2 and EFR and Is Critical for Priming of Pattern-Triggered Immunity

Ching-Wei Chen, Dario Panzeri, Yu-Hung Yeh, Yasuhiro Kadota, Pin-Yao Huang, Chia-Nan Tao, Milena Roux, Shiao-Chiao Chien, Tzu-Chuan Chin, Po-Wei Chu, Cyril Zipfel, and Laurent Zimmerli

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