IN BRIEF

The Plant Cell Reviews Dynamic Aspects of Plant Hormone Signaling and Crosstalk
Nancy A. Eckardt

Meristem Maintenance in Maize
Kathleen L. Farquharson

Rice MULEs Transpose in Yeast
Jennifer Mach

Sick as a... Grass? Viral Infection Causes Massive Changes in Alternative Splicing in Brachypodium distachyon
Jennifer Mach

A Mechanism for Inhibition of COP1 in Photomorphogenesis: Direct Interactions of Phytochromes with SPA Proteins
Nancy R. Hofmann

REVIEW

SCFTIR1/AFB-Based Auxin Perception: Mechanism and Role in Plant Growth and Development
Mohammad Salehin, Rammyani Bagchi, and Mark Estelle

PIN-Dependent Auxin Transport: Action, Regulation, and Evolution
Maciek Adamowski and Jiří Friml

The PB1 Domain in Auxin Response Factor and Aux/IAA Proteins: A Versatile Protein Interaction Module in the Auxin Response
Tom J. Guilfoyle

The Yin-Yang of Hormones: Cytokinin and Auxin Interactions in Plant Development
G. Eric Schaller, Anthony Bishopp, and Joseph J. Kieber

The Roles of ROS and ABA in Systemic Acquired Acclimation
Ron Mittler and Eduardo Blumwald

ON THE COVER

Brachypodium distachyon is a temperate C₃ grass that has emerged as a plant biology model, suitable for laboratory studies to inform research on cereals, forage, and bioenergy crops. With a short seed-to-seed life cycle (~6 to 8 weeks), a small genome (~272 Mb), and a growing number of functional genetics resources, B. distachyon is accelerating fundamental studies of economically significant grasses. B. distachyon is also host for plant pathogens, including viruses. Mandadi and Scholthof (pages 71–85) characterize the genome-wide alternative splicing landscapes in B. distachyon infected with Panicum mosaic virus alone or with its satellite virus. Using next-generation RNAsequencing and bioinformatics approaches, they discovered thousands of previously unannotated transcripts and alternative splicing of ~100 defense-related genes modulated during virus infection. The cover image shows mature 5-week-old B. distachyon plants.

LARGE-SCALE BIOLOGY ARTICLES

Genome-Wide Analysis of Alternative Splicing Landscapes Modulated during Plant-Virus Interactions in Brachypodium distachyon
Kranthi K. Mandadi and Karen-Beth G. Scholthof
Understanding the Biochemical Basis of Temperature-Induced Lipid Pathway Adjustments in Plants
Qiang Li, Qian Zheng, Wenyun Shen, Dustin Cram, D. Brian Fowler, Yangdong Wei, and Jitao Zou

RESEARCH ARTICLES

FASCINATED EAR4 Encodes a bZIP Transcription Factor That Regulates Shoot Meristem Size in Maize
Michael Pautler, Andrea L. Eveland, Therese LaRue, Fang Yang, Rebecca Weeks, China Lunde, Byoung II Je, Robert Meeley, Mai Komatsu, Erik Vollbrecht, Hajime Sakai, and David Jackson

A Maize Glutaredoxin Gene, Abphy12, Regulates Shoot Meristem Size and Phyllotaxy
Fang Yang, Huyen Thanh Bui, Michael Pautler, Victor Liaca, Robyn Johnston, Byeong-ha Lee, Allison Kolbe, Hajime Sakai, and David Jackson

Transposition of a Rice Mutator-Like Element in the Yeast Saccharomyces cerevisiae
Dongyan Zhao, Ann Ferguson, and Ning Jiang

Deficiency of the Arabidopsis Helicase RTEL1 Triggers a SOG1-Dependent Replication Checkpoint in Response to DNA Cross-Links
Zhubing Hu, Toon Cools, Pooneh Kalhorzadeh, Jefri Heyman, and Lieven De Veylder

Oil Accumulation by the Oleaginous Diatom Fistulifera solaris as Revealed by the Genome and Transcriptome
Tsuyoshi Tanaka, Yoshiaki Maeda, Alaguraj Veluchamy, Michihiro Tanaka, Heni Abida, Eric Mareçal, Chris Bowler, Masaki Muto, Yoshihiko Sunaga, Masayoshi Tanaka, Tomoko Yoshino, Takeaki Taniguchi, Yorikane Fukuda, Michiko Nemoto, Mitsufumi Matsumoto, Pui Shan Wong, Sachiyu Aburatani, and Wataru Fujibuchi

A Transient Receptor Potential Ion Channel in Chlamydomonas Shares Key Features with Sensory Transduction-Associated TRP Channels in Mammals

Light-Activated Phytochrome A and B Interact with Members of the SPA Family to Promote Photomorphogenesis in Arabidopsis by Reorganizing the COP1/SPA Complex
David J. Sheerin, Chiara Menon, Sven zur Oven-Krockhaus, Beatrix Enderle, Ling Zhu, Philipp Johnen, Frank Schiefenbaum, York-Dieter Stierhof, Enamul Huq, and Andreas Hilbrunner

Two Distinct Domains of the UVR8 Photoreceptor Interact with COP1 to Initiate UV-B Signaling in Arabidopsis
Ruohe Yin, Adriana B. Arongaus, Melanie Binkert, and Roman Ulm

The RING Finger Ubiquitin E3 Ligase SDIR1 Targets SDIR1-INTERACTING PROTEIN1 for Degradation to Modulate the Salt Stress Response and ABA Signaling in Arabidopsis
Huawei Zhang, Feng Cui, Yaorong Wu, Lijuan Lou, Lijing Liu, Miaomiao Tian, Ruohe Yin, Adriana B. Arongaus, Melanie Binkert, and Roman Ulm

Cytoplasmic Nucleation and Atypical Branching Nucleation Generate Endoplasmic Microtubules in Physcomitrella patens
Yuki Nakaoka, Akatsuki Kimura, Tomomi Tani, and Gohta Goshima

Recruitment of PLANT U-BOX13 and the PI4Kβ1/1/2 Phosphatidylinositol-4 Kinases by the Small GTPase RabA4B Plays Important Roles during Salicylic Acid-Mediated Plant Defense Signaling in Arabidopsis
Vincenzo Antignani, Amy L. Klocko, Gwangbae Bak, Suma D. Chandrasekaran, Taylor Dunavin, and Erik Nielsen
MET1 Is a Thylakoid-Associated TPR Protein Involved in Photosystem II Supercomplex Formation and Repair in Arabidopsis

Nazmul H. Bhuiyan, Giulia Friso, Anton Poliakov, Lalit Ponnala, and Klaas J. van Wijk

OSC2 and CYP716A14v2 Catalyze the Biosynthesis of Triterpenoids for the Cuticle of Aerial Organs of Artemisia annua

Tessa Moses, Jacob Pollier, Qian Shen, Sandra Soetaert, James Reed, Marie-Laure Erffelinck, Filip C.W. Van Nieuwerburgh, Robin Vanden Bossche, Anne Osbourn, Johan M. Thevelein, Dieter Deforce, Kexuan Tang, and Alain Goossens

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