**Commentary**

Translational Genomics for Bioenergy Production from Fuelstock Grasses: Maize as the Model Species  
Carolyn J. Lawrence and Virginia Walbot

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**In This Issue**

GA Perception and Signal Transduction: Molecular Interactions of the GA Receptor GID1 with GA and the DELLA Protein SLR1 in Rice  
Nancy A. Eckardt

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**In Brief**

Phosphatase AP2C1 Is a Key Component of MAPK Signaling in Arabidopsis  
Dominant, Constitutively Active Phytochrome Mutants  
Nancy A. Eckardt

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**Research Articles**

Natural Variation among Arabidopsis thaliana Accessions for Transcriptome Response to Exogenous Salicylic Acid  
Hans van Leeuwen, Daniel J. Kliebenstein, Marilyn A.L. West, Kyunga Kim, Remco van Poecke, Fumiaki Katagiri, Richard W. Michelmore, Rebecca W. Doerge, and Dina A. St.Clair

A Functional Link between Rhythmic Changes in Chromatin Structure and the Arabidopsis Biological Clock  
Mariano Perales and Paloma Más

Light-Independent Phytochrome Signaling Mediated by Dominant GAF Domain Tyrosine Mutants of Arabidopsis Phytochromes in Transgenic Plants  
Yi-shin Su and J. Clark Lagarias

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**On the Cover**

Auxin controls various processes in plant development, and one such example is lateral root (LR) formation, a major determinant of the pattern of the root system. It is not understood, however, how auxin regulates the downstream processes associated with LR formation, such as patterned cell divisions, tissue differentiation, and organ morphogenesis. Hirota et al. (pages 2156–2168) report the identification and analysis of the Arabidopsis PUCHI gene, which is essential for proper cell division pattern and morphogenesis in early stages of LR formation. PUCHI encodes a putative transcription factor of the AP2/EREBP class, and its expression is regulated by auxin through auxin-responsive cis-regulatory elements in its promoter. The cover shows a very early stage of LR formation, which is marked by a GFP-PUCHI fusion protein driven by its native promoter. In the puchi mutant, the proximal region of LR is highly expanded (bottom-left panel). The top-right panel shows an LR with normal shape in a puchi mutant plant complemented with the functional GFP-PUCHI fusion protein.
Molecular Interactions of a Soluble Gibberellin Receptor, GID1, with a Rice DELLA Protein, SLR1, and Gibberellin

Miyako Ueguchi-Tanaka, Masatoshi Nakajima, Etsuko Katoh, Hiroko Ohmiya, Kenji Asano, Shoko Saji, Xiang Hongyu, Motoyuki Ashikari, Hiidemi Kitano, Isomaro Yamaguchi, and Makoto Matsuoka

The Auxin-Regulated AP2/EREBP Gene PUCHIs Required for Morphogenesis in the Early Lateral Root Primordium of Arabidopsis

Atsuko Hirota, Takehide Kato, Hidehiro Fukaki, Mitsuhiro Aida, and Masao Tasaka

Multilevel Interactions between Ethylene and Auxin in Arabidopsis Roots

Anna N. Stepanova, Jeonga Yun, Alla V. Likhacheva, and Jose M. Alonso

Ethylene Upregulates Auxin Biosynthesis in Arabidopsis Seedlings to Enhance Inhibition of Root Cell Elongation

Ranjan Swarup, Paula Perry, Dik Hagenbeek, Dominique Van Der Straeten, Gerrit T.S. Beemster, Göran Sandberg, Rishikesh Bhalarao, Karin Ljung, and Malcolm J. Bennett

Ethylene Regulates Root Growth through Effects on Auxin Biosynthesis and Transport-Dependent Auxin Distribution

Kamil Růžička, Karin Ljung, Steffen Vanneste, Radka Podhorská, Tom Beeckman, Jiří Friml, and Eva Benková

The PP2C-Type Phosphatase AP2C1, Which Negatively Regulates MPK4 and MPK6, Modulates Innate Immunity, Jasmonic Acid, and Ethylene Levels in Arabidopsis

Alois Schweighofer, Vaiva Kazanaviciute, Elisabeth Scheikl, Markus Teige, Robert Doczi, Heribert Hirt, Manfred Schwanninger, Merijn Kant, Robert Schuurink, Felix Mauch, Antony Buchala, Francesca Cardinale, and Irute Meskiene

MYC2 Differentially Modulates Diverse Jasmonate-Dependent Functions in Arabidopsis


The TORMOZ Gene Encodes a Nucleolar Protein Required for Regulated Division Planes and Embryo Development in Arabidopsis

Megan E. Griffith, Ulrike Mayer, Arnaud Capron, Quy A. Ngo, Anandkumar Surendrarao, Regina McClinton, Gerd Jürgens, and Venkatesan Sundaresan

Functional Analysis of the Epidermal-Specific MYB Genes CAPRICE and WEREWOLF in Arabidopsis

Rumi Tominaga, Mineko Iwata, Kiyotaka Okada, and Takuji Wada
A Unique β1,3-Galactosyltransferase Is Indispensable for the Biosynthesis of N-Glycans Containing Lewis α Structures in Arabidopsis thaliana

Richard Strasser, Jayakumar Singh Bondili, Ulrike Vavra, Jennifer Schoberer, Barbara Svoboda, Josef Glössl, Renaud Léonard, Johannes Stadlmann, Friedrich Altmann, Herta Steinkellner, and Lukas Mach

An Ustilago maydis Gene Involved in H₂O₂ Detoxification Is Required for Virulence

Lázaro Molina and Regine Kahmann

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