IN BRIEF

Bitter Taste of Winter: Gentiobiose Regulates Overwintering Bud Dormancy in *Gentiana* 3825
Jennifer Lockhart

How ELONGATED HYPOCOTYL5 Helps Protect Plants from UV-B Rays 3826
Jennifer Lockhart

Lipids in Leaves: Fatty Acid β-Oxidation Affects Lipid Homeostasis 3827
Jennifer Mach

Simultaneous Monitoring of Leaf Growth and Leaf Movement 3828
Nancy R. Hofmann

COMMENTARY

Reliable Gene Expression Analysis by Reverse Transcription-Quantitative PCR: Reporting and Minimizing the Uncertainty in Data Accuracy 3829
Tony Remans, Els Keunen, Geert Jan Bex, Karen Smeets, Jaco Vangronsveld, and Ann Cuypers

Robust Self-Incompatibility in the Absence of a Functional *ARC1* Gene in *Arabidopsis thaliana* 3838
June B. Nasrallah and Mikhail E. Nasrallah

The *ARC1* E3 Ligase Promotes a Strong and Stable Self-Incompatibility Response in *Arabidopsis* Species: Response to the Nasrallah and Nasrallah Commentary 3842
Daphne R. Goring, Emily Indriolo, and Marcus A. Samuel

REVIEW

Plant Metabolic Modeling: Achieving New Insight into Metabolism and Metabolic Engineering 3847
Kambiz Baghalian, Mohammad-Reza Hajirezaei, and Falk Schreiber

LARGE-SCALE BIOLOGY ARTICLES

A Proteomic Strategy for Global Analysis of Plant Protein Complexes 3867
Uma K. Aryal, Yi Xiong, Zachary McBride, Daisuke Kihara, Jun Xie, Mark C. Hall, and Daniel B. Szymanski

ON THE COVER

Molecular mechanisms regulating dormancy in overwintering buds (OWBs) in herbaceous perennials such as gentian (*Gentiana*) are unclear. Takahashi et al. (pages 3949–3963) conducted targeted metabolome analysis to obtain clues about the metabolic mechanisms involved in regulating OWB dormancy. The results show that the oligosaccharide gentiobiose accumulates prior to budbreak and acts as a signal for dormancy release of gentian through the ascorbate-GSH pathway. The cover shows *Gentiana triflora* cv Iwate Yumeaoi, cultivated from a wild gentian species native to higher elevation meadows, forests, hills, and mountains of China, Mongolia, Eastern Russia, Korea, and Japan.

**THE PLANT CELL**

Volume 26 Number 10 October 2014

The electronic form of this issue, available at www.plantcell.org, is the journal of record.
Differential Nuclease Sensitivity Profiling of Chromatin Reveals Biochemical Footprints Coupled to Gene Expression and Functional DNA Elements in Maize

Differential Nuclease Sensitivity Profiling of Chromatin Reveals Biochemical Footprints Coupled to Gene Expression and Functional DNA Elements in Maize

Differential Nuclease Sensitivity Profiling of Chromatin Reveals Biochemical Footprints Coupled to Gene Expression and Functional DNA Elements in Maize

A Functional and Evolutionary Perspective on Transcription Factor Binding in Arabidopsis thaliana

Differentially Phased Leaf Growth and Movements in Arabidopsis Depend on Coordinated Circadian and Light Regulation

RESEARCH ARTICLES

Chromatin-Dependent Repression of the Arabidopsis Floral Integrator Genes Involves Plant Specific PHD-Containing Proteins

Nonsyntenic Genes Drive Highly Dynamic Complementation of Gene Expression in Maize Hybrids

The Gentio-Oligosaccharide Gentiobiose Functions in the Modulation of Bud Dormancy in the Herbaceous Perennial Gentiana

Jasmonoyl-L-Isoleucine Coordinates Metabolic Networks Required for Anthesis and Floral Attractant Emission in Wild Tobacco

The Arabidopsis Ethylene/Jasmonic Acid-NRT Signaling Module Coordinates Nitrate Reallocation and the Trade-Off between Growth and Environmental Adaptation

Evening Expression of Arabidopsis GIGANTEA Is Controlled by Combinatorial Interactions among Evolutionarily Conserved Regulatory Motifs

A Microbial Avenue to Cell Cycle Control in the Plant Superkingdom

FAMA Is an Essential Component for the Differentiation of Two Distinct Cell Types, Myrosin Cells and Guard Cells, in Arabidopsis

Myrosin Idioblast Cell Fate and Development Are Regulated by the Arabidopsis Transcription Factor FAMA, the Auxin Pathway, and Vesicular Trafficking

Arabidopsis TTG2 Regulates TRY Expression through Enhancement of Activator Complex-Triggered Activation

Arabidopsis ATG8-INTERACTING PROTEIN1 Is Involved in Autophagy-Dependent Vesicular Trafficking of Plastid Proteins to the Vacuole

Differential Nuclease Sensitivity Profiling of Chromatin Reveals Biochemical Footprints Coupled to Gene Expression and Functional DNA Elements in Maize

A Functional and Evolutionary Perspective on Transcription Factor Binding in Arabidopsis thaliana

Differentially Phased Leaf Growth and Movements in Arabidopsis Depend on Coordinated Circadian and Light Regulation
Trans-Golgi Network-Located AP1 Gamma Adaptins Mediate Dileucine Motif-Directed Vacuolar Targeting in Arabidopsis

Xiangfeng Wang, Yi Cai, Hao Wang, Yonglun Zeng, Xiaohong Zhuang, Bailing Li, and Liwen Jiang

Arabidopsis Lipins, PDAT1 Acyltransferase, and SDP1 Triaclyglycerol Lipase Synergistically Direct Fatty Acids toward β-Oxidation, Thereby Maintaining Membrane Lipid Homeostasis

Jillian Fan, Chengshi Yan, Rebecca Roston, John Shanklin, and Changcheng Xu

Quantitative Peptidomics Study Reveals That a Wound-Induced Peptide from PR-1 Regulates Immune Signaling in Tomato

Ying-Lan Chen, Chi-Ying Lee, Kai-Tan Cheng, Wei-Hung Chang, Rong-Nan Huang, Hong Gil Nam, and Yet-Ran Chen

CYCLIN-DEPENDENT KINASE8 Differentially Regulates Plant Immunity to Fungal Pathogens through Kinase-Dependent and -Independent Functions in Arabidopsis

Yingfang Zhu, Craig M. Schluttenhoffer, Pengcheng Wang, Fuyou Fu, Jyothi Thimmmapuram, Jian-Kang Zhu, Sang Yeol Lee, Dae-Jin Yun, and Tesfaye Mengiste

Salicylic Acid Regulates Arabidopsis Microbial Pattern Receptor Kinase Levels and Signaling

Chika Tateda, Zhongqin Zhang, Jay Shrestha, Joanna Jelenska, Delphine Chinchilla, and Jean T. Greenberg

Nod Factor Receptors Form Heteromeric Complexes and Are Essential for Intracellular Infection in Medicago Nodules

Sjef Moling, Anna Pietraszewska-Bogiel, Marten Postma, Elena Fedorova, Mark A. Hink, Erik Limpens, Theodorus W.J. Gadella, and Ton Bisseling

UV-B-Responsive Association of the Arabidopsis bZIP Transcription Factor ELONGATED HYPOCOTYL5 with Target Genes, Including Its Own Promoter

Melanie Binkert, László Kozma-Bognár, Kata Terecskei, Lieven De Veylder, Ferenc Nagy, and Roman Ulm

Critical Function of a Chlamydomonas reinhardtii Putative Polyphosphate Polymerase Subunit during Nutrient Deprivation

Munevver Aksoy, Wirulda Pootakham, and Arthur R. Grossman

Some figures in this article are displayed in color online but in black and white in the print edition.

Online version contains Web-only data.

Articles can be viewed online without a subscription.