ON THE COVER

Pectins form the gel matrix of the primary cell wall and are abundant in the middle lamella that holds plant cells together. The Arabidopsis seed coat epidermis has distinct properties that facilitate the study of cell wall components, particularly pectin, and analysis of seed mucilage mutants has led to the identification of several genes involved in the biosynthesis of cell wall components. Voiniciuc et al. (pages 944–959) characterize flying saucer1 (fly1), an Arabidopsis seed coat mutant that displays primary wall detachment, reduced mucilage extrusion, and increased mucilage adherence, and show that FLY1 is a transmembrane protein that positively regulates the degree of pectin methylesterification in seed mucilage through a mechanism mediated by ubiquitin. The cover shows images of seed with mucilage labelled in three different ways. The top two panels show fly1 mutant (left) and Columbia-2 wild-type (right) seed stained with the cellulose stain Pontamine S4B. The fly1 mutant seed in the middle panel was stained with the pectin dye ruthenium red. The bottom two panels show wild-type (left) and fly1-1 (right) seed labelled with an antibody that recognizes unesterified homogalacturonan cross-linked by calcium bridges.

IN BRIEF

RNA Polymerase IV Defines Epigenetic Variation in Maize 777
Jennifer Lockhart

Special Delivery: In Vitro Functional Examination of the Twin-Arginine Transport Complex Core Component cpTatC 778
Jennifer Mach

Alternative Splicing Confers a Dual Role in Polar Auxin Transport and Drought Stress Tolerance to the Major Facilitator Superfamily Transporter ZIFL1 779
Nancy A. Eckardt

LARGE-SCALE BIOLOGY ARTICLES

Genomic Distribution of Maize Facultative Heterochromatin Marked by Trimethylation of H3K27 780
Irina Makarevitch, Steven R. Eichten, Roman Briskine, Amanda J. Waters, Olga N. Danilevskaya, Robert B. Meeley, Chad L. Myers, Matthew W. Vaughn, and Nathan M. Springer

The Potential of Text Mining in Data Integration and Network Biology for Plant Research: A Case Study on Arabidopsis 794
Sofie Van Landeghem, Stefanie De Bodt, Zuzanna J. Drebert, Dirk Inzé, and Yves Van de Peer

RESEARCH ARTICLES

Maize RNA Polymerase IV Defines trans-Generational Epigenetic Variation 808
Karl F. Erhard, Jr., Susan E. Parkinson, Stephen M. Gross, Joy-El R. Barbour, Jana P. Lim, and Jay B. Hollick

Interlocking Feedback Loops Govern the Dynamic Behavior of the Floral Transition in Arabidopsis 820
Katja E. Jaeger, Nick Pullen, Sergey Lamzin, Richard J. Morris, and Philip A. Wigge

BRANCHED1 Promotes Axillary Bud Dormancy in Response to Shade in Arabidopsis 834
Eduardo González-Grandío, César Poza-Carrión, Carlos Oscar S. Sorzano, and Pilar Cubas

MAP18 Regulates the Direction of Pollen Tube Growth in Arabidopsis by Modulating F-Actin Organization 851
Lei Zhu, Yan Zhang, Erfang Kang, Qiangyi Xu, Miaoying Wang, Yue Rui, Baoquan Liu, Ming Yuan, and Ying Fu
Empty Pericarp5 Encodes a Pentatricopeptide Repeat Protein That Is Required for Mitochondrial RNA Editing and Seed Development in Maize
Yu-Jun Liu, Zhi-Hui Xiu, Robert Meeley, and Bao-Cai Tan

Expression of 9-cis-EPOXYCAROTENOID DIOXYGENASE4 Is Essential for Thermoinhibition of Lettuce Seed Germination but Not for Seed Development or Stress Tolerance
Heiqiang Huo, Peetambar Dahal, Keshavulu Kunusoth, Claire M. McCallum, and Kent J. Bradford

A Major Facilitator Superfamily Transporter Plays a Dual Role in Polar Auxin Transport and Drought Stress Tolerance in Arabidopsis
Estelle Remy, Tania R. Cabrito, Pawel Baster, Rita A. Batista, Miguel C. Teixeira, Jiri Friml, Isabel Sá-Correia, and Paula Duque

DELLA Proteins and Their Interacting RING Finger Proteins Repress Gibberellin Responses by Binding to the Promoters of a Subset of Gibberelin-Responsive Genes in Arabidopsis
Jeongmoo Park, Khoa Thi Nguyen, Eunae Park, Jong-Seong Jeon, and Giltsu Choi

FLYING SAUCER1 Is a Transmembrane RING E3 Ubiquitin Ligase That Regulates the Degree of Pectin Methylesterification in Arabidopsis Seed Mucilage
Cátilin Voiniciuc, Gillian H. Dean, Jonathan S. Griffiths, Kerstin Kirchsteiger, Yeen Ting Hwang, Alan Gillett, Graham Dow, Tamara L. Western, Mark Estelle, and George W. Haughn

An RNA Virus-Encoded Zinc-Finger Protein Acts as a Plant Transcription Factor and Induces a Regulator of Cell Size and Proliferation in Two Tobacco Species
Nina I. Lukhovitskaya, Anna D. Solovieva, Santosh K. Boddeti, Srinivas Thaduri, Andrey G. Solovyev, and Eugene I. Savenkov

Allosteric Regulation of Transport Activity by Heterotrimerization of Arabidopsis Ammonium Transporter Complexes in Vivo
Lixin Yuan, Riliang Gu, Yuanhu Xuan, Erika Smith-Valle, Dominique Loqué, Wolf B. Frommer, and Nicolaus von Wirén

Small Interfering RNA–Mediated Translation Repression Alters Ribosome Sensitivity to Inhibition by Cycloheximide in Chlamydomonas reinhardtii
Xinrong Ma, Eun-Jeong Kim, Insun Kook, Fangrui Ma, Adam Voshall, Etsuko Moriyama, and Heriberto Cerutti

Mapping the Signal Peptide Binding and Oligomer Contact Sites of the Core Subunit of the Pea Twin Arginine Protein Translocase
Xianyue Ma and Kenneth Cline

14-3-3 Regulates 1-Aminocyclopropane-1-Carboxylate Synthase Protein Turnover in Arabidopsis
Gyeong Mee Yoon and Joseph J. Kieber

Regulation of Arabidopsis Leaf Hydraulics Involves Light-Dependent Phosphorylation of Aquaporins in Veins
Karine Prado, Yann Boursiac, Colette Tournaire-Roux, Jean-Marc Monneuse, Olivier Postaire, Olivier Da Ines, Anton R. Schaffner, Sonia Hem, Véronique Santoni, and Christophe Maurel

The Arabidopsis YELLOW STRIPE LIKE4 and 6 Transporters Control Iron Release from the Chloroplast
Fanchon Divol, Daniel Couch, Geneviève Conéjéro, Hannelz Roschttzdttz, Stéphane Mari, and Catherine Curie

Roles of N-Terminal Fatty Acid Acylations in Membrane Compartment Partitioning: Arabidopsis h-Type Thioredoxins as a Case Study
José A. Traverso, Chiara Micalella, Aude Martinez, Spencer C. Brown, Béatrice Satiat-Jeunemaitre, Thierry Meinnel, and Carmela Gligiene

Modularity of Plant Metabolic Gene Clusters: A Trio of Linked Genes That Are Collectively Required for Acylation of Triterpenes in Oat
Sam T. Mugford, Thomas Louveau, Rachel Melton, Xiaquan Qi, Saleha Bakht, Lionel Hill, Tetsu Tsurushima, Suvi Honkanen, Susan J. Rossier, George P. Lomonossoff, and Anne Osbourn
PROTEIN S-ACYL TRANSFERASE10 Is Critical for Development and Salt Tolerance in Arabidopsis

Liang-Zi Zhou, Sha Li, Qiang-Nan Feng, Yu-Ling Zhang, Xinying Zhao, Yong-Iun Zeng, Hao Wang, Liwen Jiang, and Yan Zhang

Formation of the Unusual Semivolatile Diterpene Rhizathalene by the Arabidopsis Class I Terpene Synthase TPS08 in the Root Stele Is Involved in Defense against Belowground Herbivory

Martha M. Vaughan, Qiang Wang, Francis X. Webster, Dave Kiemle, Young J. Hong, Dean J. Tantillo, Robert M. Coates, Austin T. Wray, Whittne Askew, Christopher O’Donnell, James G. Tokuhisa, and Dorothea Tholl


Xiangzong Meng, Juan Xu, Yunxia He, Kwang-Yeol Yang, Breanne Mordorski, Yidong Liu, and Shuqin Zhang

BR-SIGNALING KINASE1 Physically Associates with FLAGELLIN SENSING2 and Regulates Plant Innate Immunity in Arabidopsis

Hua Shi, Qiujing Shen, Yiping Qi, Haojie Yan, Haozhen Nie, Yongfang Chen, Ting Zhao, Fumiaki Katagiri, and Dingzhong Tang

Barley MLA Immune Receptors Directly Interfere with Antagonistically Acting Transcription Factors to Initiate Disease Resistance Signaling

Cheng Chang, Deshui Yu, Jian Jiao, Shaojuan Jing, Paul Schulze-Lefert, and Qian-Hua Shen

RABA Members Act in Distinct Steps of Subcellular Trafficking of the FLAGELLIN SENSING2 Receptor

Seung-won Choi, Takayuki Tanaki, Kazuo Ebine, Tomohiro Uemura, Takashi Ueda, and Akihiko Nakano

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