IN BRIEF
Identification of a Novel Maize Protein Important for Paramutation at the purple plant1 Locus
Jennifer Mach

A Novel Form of Photoprotection in Cyanobacteria
Nancy A. Eckardt

Wavelength Dependence of Quantum Yield for CO2 Fixation and Photochemical Efficiencies of Photosystems I and II
Nancy A. Eckardt

Transcription Factors and Darwin’s “Abominable Mystery”: Positive Autoregulation in Floral Zygomorphy
Jennifer Mach

Gene Regulatory Networks of the Carbon-Concentrating Mechanism in Chlamydomonas reinhardtii
Nancy A. Eckardt

REVIEW
Mechanisms and Concepts Paving the Way towards a Complete Transport Cycle of Plant Vacuolar Sorting Receptors
Carine De Marcos Lousa, David C. Gershlick, and Jurgen Denecke

LARGE-SCALE BIOLOGY ARTICLES
Genome Comparison of Barley and Maize Smut Fungi Reveals Targeted Loss of RNA Silencing Components and Species-Specific Presence of Transposable Elements
John D. Laurie, Shawkat Ali, Rob Linning, Gertrud Mannhaupt, Philip Wong, Ulrich Güldener, Martin Münsterkötter, Richard Moore, Regine Kahmann, Guus Bakkeren, and Jan Schirawski

Screening a cDNA Library for Protein–Protein Interactions Directly in Planta
Lan-Ying Lee, Fu-Hui Wu, Chen-Tran Hsu, Shu-Chen Shen, Hsuan-Yu Yeh, De-Chih Liao, Mei-Jane Fang, Nien-Tze Liu, Yu-Chen Yen, Ladislav Dokládal, Eva Sýkorová, Stanton B. Gelvin, and Choun-Sea Lin

RESEARCH ARTICLES
required to maintain repression2 Is a Novel Protein That Facilitates Locus-Specific Paramutation in Maize
Joy-El R. Barbour, Irene T. Liao, Jennifer L. Stonaker, Jana P. Lim, Clarissa C. Lee, Susan E. Parkinson, Jerry Kermicle, Stacey A. Simon, Blake C. Meyers, Rosalind Williams-Carrier, Alice Barkan, and Jay B. Hollick
Grass MicroRNA Gene Paleohistory Unveils New Insights into Gene
Dosage Balance in Subgenome Partitioning after Whole-Genome
Duplication

Michael Abrouk, Rongzhi Zhang, Florent Murat, Ali Li, Caroline Pont,
Long Mao, and Jérôme Salse

Integrated Systems View on Networking by Hormones in Arabidopsis
Immunity Reveals Multiple Crosstalk for Cytokinin

Muhammad Naseem, Nicole Philipp, Anwar Hussain, Gaby Wangorsch,
Nazeer Ahmed, and Thomas Dandekar

DEHX Box RNA Helicase–Mediated Mitochondrial Reactive Oxygen
Species Production in Arabidopsis Mediates Crosstalk between
Abscisic Acid and Auxin Signaling

Junn He, Ying Duan, Deping Hua, Guangjiang Fan, Li Wang, Yue Liu,
Zhizhong Chen, Lihua Han, Li-Jia Qu, and Zhizhong Gong

Evolution of Double Positive Autoregulatory Feedback Loops in
CYCLOIDEA2 Clade Genes Is Associated with the Origin of Floral
Zygomorphy

Xia Yang, Hong-Bo Pang, Bo-Ling Liu, Zhi-Jing Qiu, Qiu Gao, Lai Wei,
Yang Dong, and Yin-Zheng Wang

Inflorescence Meristem Identity in Rice Is Specified by Overlapping
Functions of Three AP1/FUL-Like MADS Box Genes and PAP2, a
SEPALLATA MADS Box Gene

Kaoru Kobayashi, Naoko Yasuno, Yutaka Sato, Masahiro Yoda,
Ryo Yamazaki, Mayumi Kimizu, Hitoshi Yoshida, Yoshiaki Nagamura,
and Junko Kyozuka

Activation of the Carbon Concentrating Mechanism by CO2 Deprivation
Coincides with Massive Transcriptional Restructuring in
Chlamydomonas reinhardtii

Andrew R. Beggeman, Dayananda S. Gangadharaih,
Matyas F. Cserhati, David Casero, Donald P. Weeks,
and Istvan Ladunaga

Transcriptome-Wide Changes in Chlamydomonas reinhardtii Gene
Expression Regulated by Carbon Dioxide and the CO2-Concentrating
Mechanism Regulator CIA5/CCM1

Wei Fang, Yaqing Si, Stephen Douglass, David Casero, Sabeha S. Merchant,
Matteo Pellegrini, Istvan Ladunaga, Peng Liu, and Martin H. Spalding

A Chloroplast Light-Regulated Oxidative Sensor for Moderate Light
Intensity in Arabidopsis

Inbal Dangoor, Hadas Peled-Zehavi, Gal Wittenberg, and Avihai Danon

Phosphorylation of FAR-RED ELONGATED HYPOCOTYL1 Is a Key
Mechanism Defining Signaling Dynamics of Phytochrom A under
Red and Far-Red Light in Arabidopsis

Fang Chen, Xiaorang Shi, Liang Chen, Mingqiu Dai, Zhenzhen Zhou,
Yunping Shen, Jigang Li, Gang Li, Ning Wei, and Xing Wang Deng

Photosynthetic Quantum Yield Dynamics: From Photosystems
leaves

Sander W. Hogewoning, Emilie Wientjes, Peter Douwstra,
Goverd Trouwborst, Wim van Ieperen, Roberta Croce,
and Jeremy Harbinson

Assembly of Synthetic Locked Phycocyanobilin Derivatives with
Phytochrome in Vitro and in Vivo in Ceratodon purpureus and
Arabidopsis

Rui Yang, Kaori Nishiyama, Ayumi Kamiya, Yutaka Ukaji,
Katsuhiko Inomata, and Tilman Lamparter

Operon flv4-flv2 Provides Cyanobacterial Photosystem II with
Flexibility of Electron Transfer

Pengpeng Zhang, Marion Eisenhut, Anna-Maria Brandt, Dalton Carmel,
Henna M. Stilén, Imre Vass, Yagat Allahverdiyea, Tiina A. Salminen,
and Eva-Mari Aro

The Essential Role of the N-Terminal Domain of the Orange Carotenoid
Protein in Cyanobacterial Photoprotection: Importance of a Positive Charge
for Phycobilisome Binding

Adjéle Wilson, Michał Gwizdala, Alberto Mezzetti, Maxime Alexandre,
Cheryl A. Kerfeld, and Diana Kirilovsky

Transposase-Derived Proteins FHY3/FAR1 Interact with
PHYTOCHROME-INTERACTING FACTOR1 to Regulate Chlorophyll
Biosynthesis by Modulating HEBM1 during Deetiolation in Arabidopsis

Weijiang Tang, Wanqing Wang, Dongqin Chen, Qiang Ji, Yanjun Jing,
Haiyang Wang, and Rongcheng Lin
Fatty Acid Phytyl Ester Synthesis in Chloroplasts of *Arabidopsis* 2001
Felix Lippold, Katharina vom Dorp, Marion Abraham, Georg Hölzl, Vera Wewer, Jenny Lindberg Yilmaz, Ida Lager, Cyrille Montandon, Céline Besagni, Felix Kessler, Sten Stymne, and Peter Dörmann

Contribution of CoA Ligases to Benzenoid Biosynthesis in Petunia Flowers 2015
Antje Klempien, Yasuhisa Kaminaga, Anthony Quallen, Dinesh A. Nagegowda, Joshua R. Widhalm, Irina Orlova, Ajit Kumar Shasany, Goro Taguchi, Christine M. Kiah, Bruce R. Cooper, John C. D’Auria, David Rhodes, Eran Pichersky, and Natalia Dudaeva

The ARP2/3 Complex Mediates Guard Cell Actin Reorganization and Stomatal Movement in *Arabidopsis* 2031
Kun Jiang, Karim Sorefan, Michael J. Deeks, Michael W. Bevan, Patrick J. Hussey, and Alistair M. Hetherington

Plant Vegetative and Animal Cytoplasmic Actins Share Functional Competence for Spatial Development with Protoplasts 2041
Muthugapatti K. Kandasamy, Elizabeth C. McKinney, Eileen Roy, and Richard B. Meagher

The Recombinases DMC1 and RAD51 Are Functionally and Spatially Separated during Meiosis in *Arabidopsis* 2058
Marie-Therese Kurzbauer, Clemens Uanschou, Doris Chen, and Peter Schlöglhofer

*Arabidopsis* Microtubule-Associated Protein MAP65-3 Cross-Links Antiparallel Microtubules toward Their Plus Ends in the Phragmoplast via Its Distinct C-Terminal Microtubule Binding Domain 2071
Chin-Min Kimmy Ho, Yuh-Ru Julie Lee, Lindsay D. Kiyama, Savithramma P. Dinesh-Kumar, and Bo Liu

The Golgi-Localized *Arabidopsis* Endomembrane Protein12 Contains Both Endoplasmic Reticulum Export and Golgi Retention Signals at its C Terminus 2086
Caiji Gao, Christine K.Y. Yu, Song Qu, Melody Wan Yan San, Kwun Yee Li, Sze Wan Lo, and Liwen Jiang

A Membrane Microdomain-Associated Protein, *Arabidopsis* Flot1, Is Involved in a Clathrin-Independent Endocytic Pathway and Is Required for Seedling Development 2105
Ruili Li, Peng Liu, Yingliang Wan, Tong Chen, Qinli Wang, Ursula Mettbach, František Baluska, Jozef Samaj, Xiaohong Fang, William J. Lucas, and Jinxing Lin

The *Sg*-1 Glycosyltransferase Locus Regulates Structural Diversity of Triterpenoid Saponins of Soybean 2123
Takashi Sayama, Eiichiro Ono, Kyoko Takada, Manabu Honkawa, Yumi Nakamoto, Aya Hirose, Hiroko Sasama, Mihoko Ohashi, Hisakazu Hasegawa, Teruhiko Terakawa, Akin Kubochi, Shin Kato, Nana Tatsuzaki, Chihe Tsukamoto, and Masao Ishimoto

Characterization of *Arabidopsis* NEET Reveals an Ancient Role for NEET Proteins in Iron Metabolism 2139
Rachel Nechushtai, Andrea R. Conlan, Yael Harir, Luhua Song, Ohad Yoge, Yael Eisenberg-Domovich, Oded Livnah, Dorit Michaeli, Rachel Rosen, Vincent Ma, Yuting Luo, John A. Zuris, Mark L. Paddock, Zvi Ioav Cabantchik, Patricia A. Jennings, and Ron Mittler

Nramp5 Is a Major Transporter Responsible for Manganese and Cadmium Uptake in Rice 2155
Akimasa Sasaki, Naoki Yamaji, Kengo Yokoshio, and Jian Feng Ma

PHO2-Dependent Degradation of PHO1 Modulates Phosphate Homeostasis in *Arabidopsis* 2168
Tzu-Yin Liu, Teng-Kuei Huang, Ching-Ying Tseng, Ya-Shiuan Lai, Shu-I Lin, Wei-Yi Lin, June-Wei Chen, and Tzyy-Jen Chiou

A Vacular β-Glucosidase Homolog That Possesses Glucose-Conjugated Abscisic Acid Hydrolyzing Activity Plays an Important Role in Osmotic Stress Responses in *Arabidopsis* 2184
Zheng-Yi Xu, Kwang Hee Lee, Ting Dong, Jae Cheol Jeong, Jing Bo Jin, Yuri Kanno, Dae Heon Kim, Soo Youn Kim, Mitsunori Seo, Ray A. Bressan, Dae-Jin Yun, and Inhwan Hwang

Cytosolic Glycerodehyde-3-Phosphate Dehydrogenases Intercept Abscisic Acid Induction and Transduce Hydrogen Peroxide Signals in the *Arabidopsis* Response to Stress 2200
Liang Guo, Shivakumar P. Devaiah, Rama Narasimhan, Xiangqing Pan, Yanyan Zhang, Wenhua Zhang, and Xuemin Wang
Chimeric FLS2 Receptors Reveal the Basis for Differential Flagellin Perception in Arabidopsis and Tomato

Katharina Mueller, Pascal Bittel, Delphine Chinchilla, Anna K. Jehle, Markus Albert, Thomas Boller, and Georg Felix

The MEKK1-MKK1/MKK2-MPK4 Kinase Cascade Negatively Regulates Immunity Mediated by a Mitogen-Activated Protein Kinase Kinase in Arabidopsis

Qing Kong, Na Qu, Minghui Gao, Zhibin Zhang, Xiaojun Ding, Fan Yang, Yingzhong Li, Oliver X. Dong, She Chen, Xin Li, and Yuelin Zhang

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.

Open Access articles can be viewed online without a subscription.
This information is current as of June 23, 2017

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>eTOCs</td>
<td>Sign up for eTOCs at:</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.plantcell.org/cgi/alerts/ctmain">http://www.plantcell.org/cgi/alerts/ctmain</a></td>
</tr>
<tr>
<td>CiteTrack Alerts</td>
<td>Sign up for CiteTrack Alerts at:</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.plantcell.org/cgi/alerts/ctmain">http://www.plantcell.org/cgi/alerts/ctmain</a></td>
</tr>
<tr>
<td>Subscription Information</td>
<td>Subscription Information for <em>The Plant Cell</em> and <em>Plant Physiology</em> is available at:</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.aspb.org/publications/subscriptions.cfm">http://www.aspb.org/publications/subscriptions.cfm</a></td>
</tr>
</tbody>
</table>

© American Society of Plant Biologists
ADVANCING THE SCIENCE OF PLANT BIOLOGY