

On the Cover: In contrast to matrix metalloproteinases (MMPs) that are critically involved in the remodeling of the extracellular matrix as part of normal development and during pathogenesis in vertebrates, the function of MMPs in plants is largely unknown. In pp. 1456–1469, Zimmermann et al. identify the subtilisin-like protease P69B as a physiological substrate of MMPs in the cell wall of tomato plants. In transgenic plants silenced for MMP expression by RNA interference, the accumulation of P69B leads to cell death in the epidermis and cortex of the hypocotyl during early seedling development. In later developmental stages necrosis spreads, covering the entire stem and extending into the leaves of MMP-silenced plants. Zimmermann et al. show that the induction of cell death in MMP-silenced plants depends on P69B indicating that MMPs act upstream of P69B in an extracellular proteolytic cascade that contributes to the regulation of cell death in tomato. The cover shows a hand-cut stem cross-section of a MMP-silenced tomato plant. Bluish autofluorescence marks the deposition of suberin in the wound periderm that is formed as a secondary dermal tissue replacing the lost epidermis. Cover image credits: A. Schaller, Institute of Plant Physiology and Biotechnology, University of Hohenheim, Stuttgart, Germany.

ON THE INSIDE

Peter V. Minorsky 721

LETTER TO THE EDITOR

Epidermal Pavement Cells of Arabidopsis Have Chloroplasts. Kiah A. Barton, Martin H. Schattat, Torsten Jakob, Gerd Hause, Christian Wilhelm, Joseph F. Mckenna, Csaba Máthé, John Runions, Daniel Van Damme, and Jaideep Mathur 723

TOPICAL REVIEW

^[OPEN]Techniques for the Analysis of Protein-Protein Interactions in Vivo. Shuping Xing, Niklas Wallmeroth, Kenneth W. Berendzen, and Christopher Grefen

A discussion of the technological limitations and advantages of the most commonly used techniques for detecting in vivo protein-protein interactions is presented, emphasizing their application to plant research. 727

BREAKTHROUGH TECHNOLOGIES

^[OPEN]A Foxtail mosaic virus Vector for Virus-Induced Gene Silencing in Maize. Yu Mei, Chunquan Zhang, Bliss M. Kernodle, John H. Hill, and Steven A. Whitham

The development of an infectious clone of Foxtail mosaic virus and demonstration of its use for virus-induced gene silencing applications in maize are described. 760

^[OPEN]Sequence-Specific Protein Aggregation Generates Defined Protein Knockdowns in Plants. Camilla Betti, Isabelle Vanhoutte, Silvie Coutuer, Riet De Rycke, Kiril Mishev, Marnik Vuylsteke, Stijn Aesaert, Debbie Rombaut, Rodrigo Gallardo, Frederik De Smet, Jie Xu, Mieke Van Lijsebettens, Frank Van Breusegem, Dirk Inzé, Frederic Rousseau, Joost Schymkowitz, and Eugenia Russinova

A protein knockdown method based on expression of specific aggregation-prone peptides derived from the targeted proteins. 773

RESEARCH REPORT

^[OPEN]Starch Biosynthesis in Guard Cells But Not in Mesophyll Cells Is Involved in CO₂-Induced Stomatal Closing. Tamar Azoulay-Shemer, Andisheh Bagheri, Cun Wang, Axxell Palomares, Aaron B. Stephan, Hans-Henning Kunz, and Julian I. Schroeder

Stomatal CO₂ response and assimilation rates of defined starch biosynthesis mutants (ADGase and pPGI) reveal that starch synthesis in guard cells but not mesophyll functions in CO₂-induced stomatal closure. 788

Continued on next page

RESEARCH ARTICLES

BIOCHEMISTRY AND METABOLISM

Of the Nine Cytidine Deaminase-Like Genes in Arabidopsis, Eight Are Pseudogenes and Only One Is Required to Maintain Pyrimidine Homeostasis in Vivo. *Mingjia Chen, Marco Herde, and Claus-Peter Witte*

Bioinformatic, biochemical, and reverse genetics analyses suggest that only one of the nine annotated Arabidopsis cytidine deaminase genes encodes a fully functional enzyme involved in pyrimidine catabolism. 799

^[OPEN]Maize Tricin-Oligolignol Metabolites and Their Implications for Monocot Lignification. *Wu Lan, Kris Morreel, Fachuang Lu, Jorge Rencoret, José Carlos del Río, Wannes Voorend, Wilfred Vermerris, Wout Boerjan, and John Ralph*

Tricin-oligolignol maize metabolites, including variously acylated derivatives, validate combinatorial lignification and the incorporation of triclin into monocot lignins. 810

A Light Switch Based on Protein S-Nitrosylation Fine-Tunes Photosynthetic Light Harvesting in *Chlamydomonas*. *Hanna Berger, Marcello De Mia, Samuel Morisse, Christophe H. Marchand, Stéphane D. Lemaire, Lutz Wobbe, and Olaf Kruse*

In the green alga C. reinhardtii, reversible S-nitrosylation of a cytosolic translation repressor acts as a redox switch that fine-tunes light harvesting in response to a fluctuating light supply. 821

^[OPEN]Pectin Methylesterification Impacts the Relationship between Photosynthesis and Plant Growth. *Sarathi M. Weraduwage, Sang-Jin Kim, Luciana Renna, Fransisca C. Anozie, Thomas D. Sharkey, and Federica Brandizzi*

High levels of methylesterification of pectin allow for enhanced cell expansion, partitioning of resources to leaf growth, and increased leaf area for photosynthesis, which in turn enhance plant growth. 833

^[OPEN]Loss of Mitochondrial Malate Dehydrogenase Activity Alters Seed Metabolism Impairing Seed Maturation and Post-Germination Growth in Arabidopsis. *Yun Shin Sew, Elke Ströher, Ricarda Fenske, and A. Harvey Millar*

Loss of mitochondrial malate dehydrogenase in Arabidopsis increases seed respiration rate, changes metabolism, and impairs seed maturation, which limits seed viability and slows postgermination growth. 849

A Cytoplasmic Protein Ssl3829 Is Important for NDH-1 Hydrophilic Arm Assembly in *Synechocystis* sp. Strain PCC 6803. *Xiaozhuo Wang, Fudan Gao, Jingsong Zhang, Jiaohong Zhao, Teruo Ogawa, and Weimin Ma*

A 10-kD cytoplasmic protein, Ssl3829, plays an important role in NDH-1 assembly by accumulating subunit maturation factor and assembly intermediate in a cyanobacterium. 864

^[OPEN]An Improved Variant of Soybean Type 1 Diacylglycerol Acyltransferase Increases the Oil Content and Decreases the Soluble Carbohydrate Content of Soybeans. *Keith Roesler, Bo Shen, Ericka Bermudez, Changjiang Li, Joanne Hunt, Howard G. Damude, Kevin G. Ripp, John D. Everard, John R. Booth, Leandro Castaneda, Lizhi Feng, and Knut Meyer*

Variants of diacylglycerol acyltransferase with improved kinetic parameters were much more effective than wild-type enzymes in increasing the oil content of soybeans. 878

^[OPEN]The Glycerol-3-Phosphate Acyltransferase GPAT6 from Tomato Plays a Central Role in Fruit Cutin Biosynthesis. *Johann Petit, Cécile Bres, Jean-Philippe Mauxion, Fabienne Wong Jun Tai, Laetitia B.B. Martin, Eric A. Fich, Jérôme Joubès, Jocelyn K.C. Rose, Frédéric Domergue, and Christophe Rothan*

Identification by mapping-by-sequencing of the causal mutation underlying a tomato cutin-deficient mutant unravels the central role of GPAT6 in fruit cuticle formation. 894

Continued on next page

[OPEN]The Bark-Beetle-Associated Fungus, *Endoconidiophora polonica*, Utilizes the Phenolic Defense Compounds of Its Host as a Carbon Source. Namita Wadke, Dineshkumar Kandasamy, Heiko Vogel, Ljerka Lah, Brenda D. Wingfield, Christian Paetz, Louvrance P. Wright, Jonathan Gershenzon, and Almuth Hammerbacher

Catechol dioxygenases catalyzing the first step in Norway spruce phenolic degradation are key virulence factors in the bark-beetle-vectored fungus Endoconidiophora polonica. 914

[OPEN]Membrane-Induced Folding of the Plant Stress Dehydrin Lti30. Sylvia Eriksson, Nadejda Eremina, Andreas Barth, Jens Danielsson, and Pia Harryson

NMR studies show at atomic resolution that the K-segment of a stress-induced dehydrin protein adapts α -helical structure when it binds membranes. 932

MicroRNA858 Is a Potential Regulator of Phenylpropanoid Pathway and Plant Development. Deepika Sharma, Manish Tiwari, Ashutosh Pandey, Chitra Bhatia, Ashish Sharma, and Prabodh Kumar Trivedi

miR858a targets MYB transcription factors involved in flavonoid biosynthesis and plant growth and development. 944

[OPEN]SUPERKILLER Complex Components Are Required for the RNA Exosome-Mediated Control of Cuticular Wax Biosynthesis in Arabidopsis Inflorescence Stems. Lifang Zhao and Ljerka Kunst

RNA exosome-mediated control of cuticular wax biosynthesis requires participation of SUPERKILLER complex proteins SKI2, SKI3, and SKI8. 960

CELL BIOLOGY

[OPEN]A Mutation in the Catalytic Subunit of the Glycosylphosphatidylinositol Transamidase Disrupts Growth, Fertility, and Stomata Formation. Mark G.R. Bundy, Pawel Z. Kosentka, Alaina H. Willet, Liang Zhang, Emily Miller, and Elena D. Shpak

A weak mutation in an enzyme that attaches a GPI anchor to proteins permits analysis of post-embryonic functions of GPI-anchored proteins. 974

ECOPHYSIOLOGY AND SUSTAINABILITY

[OPEN]Ovary Apical Abortion under Water Deficit Is Caused by Changes in Sequential Development of Ovaries and in Silk Growth Rate in Maize. Vincent Oury, François Tardieu, and Olivier Turc

Ovary sequential development and silk growth, but not ovary growth, explain the changes with water deficit in ovary abortion and in its spatial distribution along the ear of maize plants. 986

[OPEN]Is Change in Ovary Carbon Status a Cause or a Consequence of Maize Ovary Abortion in Water Deficit during Flowering? Vincent Oury, Cecilio F. Caldeira, Duyen Prodhomme, Jean-Philippe Pichon, Yves Gibon, François Tardieu, and Olivier Turc

The first molecular events leading to maize ovary abortion involved genes affecting expansive growth rather than sugar metabolism, so the latter might be a consequence rather than causal. 997

[OPEN]Insights on the Impact of Arbuscular Mycorrhizal Symbiosis on Tomato Tolerance to Water Stress. Walter Chitarra, Chiara Pagliarani, Biancaelena Maserti, Erica Lumini, Ilenia Siciliano, Pasquale Cascone, Andrea Schubert, Giorgio Gambino, Raffaella Balestrini, and Emilio Guerrieri

Arbuscular mycorrhizal symbiosis can improve tolerance to severe water stress conditions in tomato plants. 1009

Continued on next page

[^{OPEN}] **In Situ Visualization of the Dynamics in Xylem Embolism Formation and Removal in the Absence of Root Pressure: A Study on Excised Grapevine Stems.** Thorsten Knipfer, Italo F. Cuneo, Craig R. Brodersen, and Andrew J. McElrone

In excised grapevine stems, temporal changes in xylem embolism formation and removal are driven by vessel-associated tissue.

1024

GENES, DEVELOPMENT AND EVOLUTION

[^{OPEN}] **The Symbiosis-Related ERN Transcription Factors Act in Concert to Coordinate Rhizobial Host Root Infection.** Marion R. Cerri, Lisa Frances, Audrey Kelner, Joëlle Fournier, Patrick H. Middleton, Marie-Christine Auriac, Kirankumar S. Mysore, Jiangqi Wen, Monique Erard, David G. Barker, Giles E. Oldroyd, and Fernanda de Carvalho-Niebel

Redundant key roles of ERN1/ERN2 during root hair endosymbiotic infection.

1037

[^{OPEN}] **Gains and Losses of Cis-regulatory Elements Led to Divergence of the Arabidopsis APETALA1 and CAULIFLOWER Duplicate Genes in the Time, Space, and Level of Expression and Regulation of One Paralog by the Other.** Lingling Ye, Bin Wang, Wengen Zhang, Hongyan Shan, and Hongzhi Kong

Gain of an autoregulatory site in one paralog led to the divergence of two duplicate genes in the time, space, and level of expression and regulation of one paralog by the other.

1055

[^{OPEN}] **Banana Transcription Factor MaERF11 Recruits Histone Deacetylase MaHDA1 and Represses the Expression of MaACO1 and Expansins during Fruit Ripening.** Yan-Chao Han, Jian-Fei Kuang, Jian-Ye Chen, Xun-Cheng Liu, Yun-Yi Xiao, Chang-Chun Fu, Jun-Ning Wang, Ke-Qiang Wu, and Wang-Jin Lu

ETHYLENE RESPONSE FACTOR11 (MaERF11) and HDA1 interact to repress the expression of ACO1 and expansins via histone deacetylation.

1070

[^{OPEN}] **Down-Regulation of a Nicotinate Phosphoribosyltransferase Gene, OsNaPRT1, Leads to Withered Leaf Tips.** Liwen Wu, Deyong Ren, Shikai Hu, Gengmi Li, Guojun Dong, Liang Jiang, Xingming Hu, Weijun Ye, Yongtao Cui, Li Zhu, Jiang Hu, Guangheng Zhang, Zhenyu Gao, Dali Zeng, Qian Qian, and Longbiao Guo

Defects in a NAD salvage pathway trigger the accumulation of nicotinamide and increase histone H3K9 acetylation and expression of senescence-related genes in rice.

1085

Deciphering the Molecular Mechanisms Underpinning the Transcriptional Control of Gene Expression by Master Transcriptional Regulators in Arabidopsis Seed. Sébastien Baud, Zsolt Kelemen, Johanne Thévenin, Céline Boulard, Sandrine Blanchet, Alexandra To, Manon Payre, Nathalie Berger, Delphine Effroy-Cuzzi, Jose Manuel Franco-Zorrilla, Marta Godoy, Roberto Solano, Emmanuel Thevenon, François Parcy, Loïc Lepiniec, and Bertrand Dubreucq

LEC2, ABI3, and LEC1 synergistically interact to activate an oleosin promoter.

1099

[^{OPEN}] **A Homolog of Blade-On-Petiole 1 and 2 (BOP1/2) Controls Internode Length and Homeotic Changes of the Barley Inflorescence.** Matthias Jost, Shin Taketa, Martin Mascher, Axel Himmelbach, Takahisa Yuo, Fahimeh Shahinnia, Twan Rutten, Arnis Druka, Thomas Schmutzer, Burkhard Steuernagel, Sebastian Beier, Stefan Taudien, Uwe Scholz, Michele Morgante, Robbie Waugh, and Nils Stein

Homeotic changes in the barley inflorescence are caused by loss of function of a gene homologous to known transcriptional regulators that set organ boundaries of Arabidopsis thaliana.

1113

Continued on next page

Regulation of MicroRNA-Mediated Developmental Changes by the SWR1 Chromatin Remodeling Complex. *Kyuha Choi, Juhyun Kim, Sebastian Y. Müller, Mijin Oh, Charles Underwood, Ian Henderson, and Ilha Lee*

SWR1-C is required for miRNA-mediated developmental controls through transcriptional activation and generates proper balances between miRNAs and target mRNAs for plant development in Arabidopsis thaliana. 1128

[OPEN] Nonsyntenic Genes Drive Tissue-Specific Dynamics of Differential, Nonadditive, and Allelic Expression Patterns in Maize Hybrids. *Jutta A. Baldauf, Caroline Marcon, Anja Paschold, and Frank Hochholdinger*

Nonsyntenic genes are overrepresented among differential, nonadditive, and allelic expression patterns in root tissues of maize hybrids during the early developmental manifestation of heterosis. 1144

The WD-Repeat Protein CsTTG1 Regulates Fruit Wart Formation through Interaction with the Homeodomain-Leucine Zipper I Protein Mict. *Chunhua Chen, Shuai Yin, Xingwang Liu, Bin Liu, Sen Yang, Shudan Xue, Yanling Cai, Kezia Black, Huiling Liu, Mingming Dong, Yaqi Zhang, Binyu Zhao, and Huazhong Ren*

CsTTG1 regulates the initiation of fruit bloom trichomes and warts and morphogenesis of the fruit spines. 1156

[OPEN] Molecular Characterization of Arabidopsis GAL4/UAS Enhancer Trap Lines Identifies Novel Cell-Type-Specific Promoters. *Tatyana Radoeva, Colette A. ten Hove, Shunsuke Saiga, and Dolf Weijers*

GAL4-UAS enhancer trap populations flag a range of cell-type-specific promoters in vivo. 1169

[OPEN] *Albino Leaf1* That Encodes the Sole Octotricopeptide Repeat Protein Is Responsible for Chloroplast Development. *Zemin Zhang, Jianjie Tan, Zhenying Shi, Qingjun Xie, Yi Xing, Changhong Liu, Qiaoling Chen, Haitao Zhu, Jiang Wang, Jingliu Zhang, and Guiquan Zhang*

An octotricopeptide repeat protein regulates chloroplast development by coordinating the transcription and translation of chloroplast associated genes in rice. 1182

[OPEN] The Second Subunit of DNA Polymerase Delta Is Required for Genomic Stability and Epigenetic Regulation. *Jixiang Zhang, Shaojun Xie, Jinkui Cheng, Jinsheng Lai, Jian-Kang Zhu, and Zhizhong Gong*

Mutation in the subunit of DNA-polymerase delta leads to increased homologous recombination and alters histone modification patterns. 1192

[OPEN] Integration of Hormonal and Nutritional Cues Orchestrates Progressive Corolla Opening. *Chengzhen Sun, Yanqiang Li, Wensheng Zhao, Xiaofei Song, Man Lu, Xiaoli Li, Xuexian Li, Renyi Liu, Liying Yan, and Xiaolan Zhang*

Control of female flower opening in cucumber by hormone and nutritional cues, and genes related to cell wall, photosynthesis, protein degradation, and signaling. 1209

[OPEN] Auxin Biosynthesis: Are the Indole-3-Acetic Acid and Phenylacetic Acid Biosynthesis Pathways Mirror Images? *Sam D. Cook, David S. Nichols, Jason Smith, Prem S. Chourey, Erin L. McAdam, Laura Quittenden, and John J. Ross*

Phenylacetic acid biosynthesis appears to proceed similarly to that of indole-3-acetic acid, but the enzymes responsible for these pathways are not identical. 1230

Genomic DNA Methylation Analyses Reveal the Distinct Profiles in Castor Bean Seeds with Persistent Endosperms Wei Xu, Tianquan Yang, Xue Dong, De-Zhu Li, and Aizhong Liu

Dicotyledonous castor seeds with persistent endosperms exhibit novel genomic DNA methylation profiles mediated by 24-nt siRNAs. 1242

The De-Etiolated 1 Homolog of Arabidopsis Modulates the ABA Signaling Pathway and ABA Biosynthesis in Rice. Guangchao Zang, Hanyan Zou, Yuchan Zhang, Zheng Xiang, Junli Huang, Li Luo, Chunping Wang, Kairong Lei, Xianyong Li, Deming Song, Ahmad Ud Din, Guixue Wang

OsDET1 modulates ABA signaling pathway and ABA biosynthesis, leading to contradictory phenotypes related to ABA in OsDET1 deficiency transgenic plants. 1259

^[OPEN]The Small Molecule Hyperphyllin Enhances Leaf Formation Rate and Mimics Shoot Meristem Integrity Defects Associated with AMP1 Deficiency. Olena Poretska, Saiqi Yang, Delphine Pitorre, Wilfried Rozhon, Karin Zwerger, Marcos Castellanos Uribe, Sean May, Peter McCourt, Brigitte Poppenberger, and Tobias Sieberer

A chemical genetic approach identified the drug hyperphyllin, which phenocopies mutation of AMP1, a member of the M28 carboxypeptidase family with novel plant-specific functions. 1277

MEMBRANES, TRANSPORT AND BIOENERGETICS

BIOGENESIS FACTOR REQUIRED FOR ATP SYNTHASE 3 Facilitates Assembly of the Chloroplast ATP Synthase Complex. Lin Zhang, Zhikun Duan, Jiao Zhang, and Lianwei Peng

A nucleus-encoded factor is involved in the assembly of the chloroplast ATP synthase via a specific interaction with CF1 β subunit. 1291

^[OPEN]Distinguishing the Roles of Thylakoid Respiratory Terminal Oxidases in the Cyanobacterium *Synechocystis* sp. PCC 6803. Maria Ermakova, Tuomas Huokko, Pierre Richaud, Luca Bersanini, Christopher J. Howe, David J. Lea-Smith, Gilles Peltier, and Yagut Allahverdiyeva

In Synechocystis PCC 6803, electron sinks, comprising the O₂ utilizing respiratory terminal oxidases and flavodiiron proteins, contribute to photoprotection and regulation of photosynthesis in the light. 1307

^[OPEN]Functional Characterization of the Subunits N, H, J, and O of the NAD(P)H Dehydrogenase Complexes in *Synechocystis* sp. Strain PCC 6803. Zhihui He and Hualing Mi

NdhN, NdhH, and NdhJ are essential for the stability and the activities of NAD(P)H dehydrogenase complexes. 1320

^[OPEN]Thylakoid-Bound FtsH Proteins Facilitate Proper Biosynthesis of Photosystem I. Sari Järvi, Marjaana Suorsa, Luca Tadini, Aiste Ivanauskaitė, Sanna Rantala, Yagut Allahverdiyeva, Dario Leister, and Eva-Mari Aro

FtsH, well characterized as degrading photodamaged D1 protein of photosystem II, is suggested to assist biosynthesis of photosystem I under moderate light. 1333

SIGNALING AND RESPONSE

[OPEN] Two Redundant Receptor-Like Cytoplasmic Kinases Function Downstream of Pattern Recognition Receptors to Regulate Activation of SA Biosynthesis. Qing Kong, Tongjun Sun, Na Qu, Junling Ma, Meng Li, Yu-ti Cheng, Qian Zhang, Di Wu, Zhibin Zhang, and Yuelin Zhang

Receptor-like cytoplasmic kinases PCRK1 and PCRK2 transduce defense signals from pattern recognition receptors to activate pathogen-induced SA biosynthesis. 1344

[OPEN] The bZIP Protein VIP1 Is Involved in Touch Responses in Arabidopsis Roots. Daisuke Tsugama, Shenkui Liu, and Tetsuo Takano

A repression domain-fused form of VIP1 represses the expression of a subset of touch-responsive genes and enhances touch-induced root waving, suggesting that VIP1 regulates root touch responses. 1355

[OPEN] The GSK3/Shaggy-Like Kinase ASK α Contributes to Pattern-Triggered Immunity. Hansjörg Stampfl, Marion Fritz, Silvia Dal Santo, and Claudia Jonak

The GSK3/Shaggy-like kinase ASK α and its direct substrate glucose-6-phosphate dehydrogenase constitute a signaling module contributing to innate immunity in Arabidopsis thaliana. 1366

Negative Regulation of Autophagy by Sulfide Is Independent of Reactive Oxygen Species. Ana M. Laureano-Marín, Inmaculada Moreno, Luis C. Romero, and Cecilia Gotor

Sulfide, but not other sulfur-containing molecules, represses autophagy irrespective of the redox conditions. 1378

Circadian and Plastid Signaling Pathways Are Integrated to Ensure Correct Expression of the CBF and COR Genes during Photoperiodic Growth. Louise Norén, Peter Kindgren, Paulina Stachula, Mark Rühl, Maria E. Eriksson, Vaughan Hurry, and Åsa Strand

HSP90, ZTL, PRR5 and HY5 integrate circadian and plastid signaling pathways to regulate CBF and COR expression. 1392

[OPEN] Differential Effects of Nitrogen Forms on Cell Wall Phosphorus Remobilization Are Mediated by Nitric Oxide, Pectin Content, and Phosphate Transporter Expression. Chun Quan Zhu, Xiao Fang Zhu, An Yong Hu, Chao Wang, Bin Wang, Xiao Ying Dong, and Ren-Fang Shen

NH₄⁺ increased production of NO causes an increment of pectin and PME activity, which results in increased soluble P, and the concomitant up-regulation of OsPT2 facilitates the translocation of P. 1407

Cytokinin Determines Thiol-Mediated Arsenic Tolerance and Accumulation. Thotegowdanapalya C. Mohan, Gabriel Castrillo, Cristina Navarro, Sonia Zarco-Fernández, Eswarayya Ramireddy, Cristian Mateo, Angel M. Zamarreño, Javier Paz-Ares, Riansares Muñoz, Jose M. García-Mina, Luis E. Hernández, Thomas Schmölling, and Antonio Leyva

The phytohormone cytokinin is an essential negative regulator of the arsenic detoxification machinery and is thus a key factor in plant tolerance and adaptation to arsenic. 1418

[OPEN] Alternative Splicing of Rice WRKY62 and WRKY76 Transcription Factor Genes in Pathogen Defense. Jiqin Liu, Xujun Chen, Xiaoxing Liang, Xiangui Zhou, Fang Yang, Jia Liu, Sheng Yang He, and Zejian Guo

Alternative splicing of two WRKY transcription factors plays a key role in pathogen sensitivity and alters pathogen-induced gene expression. 1427

[OPEN] Arabidopsis NATA1 Acetylates Putrescine and Decreases Defense-Related Hydrogen Peroxide Accumulation. *Yann-Ru Lou, Melike Bor, Jian Yan, Aileen S. Preuss, and Georg Jander*

Putrescine acetylation in Arabidopsis thaliana reduces production of hydrogen peroxide by polyamine oxidases, thereby promoting plant susceptibility to Pseudomonas syringae. 1443

[OPEN] Cell Death Control by Matrix Metalloproteinases. *Dirk Zimmermann, Juan A. Gomez-Barrera, Christian Pasule, Ursula B. Brack-Frick, Elke Sieferer, Tim M. Nicholson, Jens Pfannstiel, Annick Stintzi, and Andreas Schaller*

An extracellular proteolytic cascade involving two matrix metalloproteinases and the subtilisin-like proteinase P69B attenuates epidermal cell death as a prerequisite for tomato plant development. 1456

[OPEN] The Raf-like Kinase *ILK1* and the High Affinity K^+ Transporter *HAK5* Are Required for Innate Immunity and Abiotic Stress Response. *Elizabeth K. Brauer, Nagib Ahsan, Renee Dale, Naohiro Kato, Alison E. Coluccio, Miguel A. Piñeros, Leon V. Kochian, Jay J. Thelen, and Sorina C. Popescu*

Microbe-induced changes in macronutrient content are required to generate immune responses via a kinase and potassium transporter. 1470

The Putative O-Linked N-Acetylglucosamine Transferase *SPINDLY* Inhibits Class I TCP Proteolysis to Promote Sensitivity to Cytokinin. *Evyatar Steiner, Sivan Livne, Tammy Kobinson-Katz, Lior Tal, Oded Pri-Tal, Assaf Mosquna, Danuše Tarkowská, Bruno Mueller, Petr Tarkowski, and David Weiss*

The putative catalytic O-GlcNAc domain of SPINDLY is required for stability of the transcription factor TCP14 and cytokinin responses in developing Arabidopsis leaves and flowers. 1485

SYSTEMS AND SYNTHETIC BIOLOGY

[OPEN] Comparative Proteomics Analysis of Phloem Exudates Collected during the Induction of Systemic Acquired Resistance. *Philip Carella, Juliane Merl-Pham, Daniel C. Wilson, Sanjukta Dey, Stefanie M. Hauck, A. Corina Vlot, and Robin K. Cameron*

Label-free quantitative proteomics analysis of Arabidopsis phloem exudates collected during the induction of systemic acquired resistance (SAR) identifies novel components of the SAR response. 1495

Genome-Wide Inference of Protein-Protein Interaction Networks Identifies Crosstalk in Abscisic Acid Signaling. *Fangyuan Zhang, Shiwei Liu, Ling Li, Kaijing Zuo, Lingxia Zhao, and Lida Zhang*

A genome-wide protein-protein interaction network is computed by combining three-dimensional structure with functional information in Arabidopsis. 1511

Members of BTB Gene Family of Scaffold Proteins Suppress Nitrate Uptake and Nitrogen Use Efficiency. *Viviana Araus, Elena A. Vidal, Tomas Puelma, Simón Alamos, Delphine Mieulet, Emmanuel Guiderdoni, and Rodrigo A. Gutiérrez*

Under N deficiency, in both rice and Arabidopsis, BTs are negative regulators of nitrate uptake and nitrogen utilization efficiency. 1523

CORRECTION

Activation of the *Stt7/STN7* Kinase through Dynamic Interactions with the Cytochrome *b₆f* Complex. *Shapiguzov A., Chai X., Fucile G., Longoni P., Zhang L., and Rochaix J.-D.*

1533

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