

T H E  
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**ON THE COVER**



Symbiotic nitrogen fixation is a high energy consumption procession, legumes must has a machansim to balance growth and symbiotic nodulation. We show that the Compact Root Architecture 2 (MtCRA2) receptor-like kinase is essential to promote the initiation of early symbiotic nodulation and to inhibit root growth in response to low-N.stress On the one hand, MtCEP1-activated MtCRA2 receptor represses transcriptionally the expression of the *MtYUC2* gene, which is correlated with reduced auxin content in roots, and increased main root growth and decreased lateral root formation. On the other hand, the MtCEP1-activated MtCRA2 receptor transphosphorylates MtEIN2, which inhibits MtEIN2 cleavage depending on N-availability and thus interrupts the ethylene signaling pathway which inhibits rhizobial infections under low-N, making the plant roots more actively susceptible to rhizobium. The image shows the transgenic hairy roots overexpressing *MtYUC2* and marked by GUS staining. The image was photographed by Fugui Zhu.

**IN BRIEF**

- In the Transcripts: Long-Read Transcriptomics Enables a Novel Type of Transposable Element Annotation in Plants<sup>[OPEN]</sup>** 2661  
Matthias Benoit
- Feasting While Fasting: How Autophagy Helps Maize Survive Carbon Starvation<sup>[OPEN]</sup>** 2663  
Brendan M. O'Leary
- On UPF Proteins, Baking Cookies, and the Many Targets of Nonsense-Mediated RNA Decay<sup>[OPEN]</sup>** 2665  
Saima Shahid
- It Takes Two To Be You: Promoter Motif Pairs Keep Immune Responses within Cell Identity Boundaries<sup>[OPEN]</sup>** 2667  
Dorota Kawa
- OsGSK2 Integrates Jasmonic Acid and Brassinosteroid Signaling in Rice<sup>[OPEN]</sup>** 2669  
P. William Hughes
- SnRK1-ZmRFWD3-Opaque2: A Nexus of Seed Nutrient Accumulation and Diurnal Cycles<sup>[OPEN]</sup>** 2671  
Yingqi Cai
- The Sounds of Silence: Cell Fate Restriction and RNA Silencing in Plant Ovules<sup>[OPEN]</sup>** 2673  
Sebastien Andreuzza
- Peptide-Receptor Signaling Pumps the Brakes on Auxin Biosynthesis and Ethylene Signaling to Harmonize Root Growth and Nodulation<sup>[OPEN]</sup>** 2675  
Josh Strable
- Back to Where It Came From: Chloroplast Expression of Both Rubisco Subunits Helps Functional Enzyme Analysis<sup>[OPEN]</sup>** 2677  
Hanna Hõrak
- A Once-Hidden Endoplasmic Reticulum Matrix Reveals the Totally Tubular Function of LUNAPARKs in Plants<sup>[OPEN]</sup>** 2679  
Anne C. Rea
- Plant (RNA) Editors: Testing for Conservation in RNA Editing in Moss and Angiosperms<sup>[OPEN]</sup>** 2681  
Patrice A. Salomé

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Online at [www.plantcell.org](http://www.plantcell.org)**LETTER TO THE EDITOR****Araport Lives: An Updated Framework for Arabidopsis****Bioinformatics**<sup>[OPEN]</sup>Asher Pasha, Shabari Subramaniam, Alan Cleary, Xingguo Chen,  
Tanya Berardini, Andrew Farmer, Christopher Town,  
and Nicholas Provart

2683

**BREAKTHROUGH REPORT****Long-Read cDNA Sequencing Enables a “Gene-Like” Transcript Annotation of Transposable Elements**<sup>[OPEN]</sup>

Kaushik Panda and R. Keith Slotkin

2687

**LARGE-SCALE BIOLOGY ARTICLES****Autophagy Plays Prominent Roles in Amino Acid, Nucleotide, and Carbohydrate Metabolism during Fixed-Carbon Starvation in Maize**<sup>[OPEN]</sup>Fionn McLoughlin, Richard S. Marshall, Xinxin Ding, Elizabeth C. Chatt,  
Liam D. Kirkpatrick, Robert C. Augustine, Faqiang Li, Marisa S. Otegui,  
and Richard D. Vierstra

2699

**Nonsense-Mediated RNA Decay Factor UPF1 Is Critical for Posttranscriptional and Translational Gene Regulation in Arabidopsis**Vivek K. Raxwal, Craig G. Simpson, Jiradet Gloggnitzer,  
Juan Carlos Entinze, Wenbin Guo, Runxuan Zhang, John W.S. Brown,  
and Karel Riha

2725

**Regulation of Cell Type-Specific Immunity Networks in Arabidopsis Roots**<sup>[CC-BY]</sup>Charlotte Rich-Griffin, Ruth Eichmann, Marco U. Reitz,  
Sophie Hermann, Katherine Woolley-Allen, Paul E. Brown,  
Kate Wiwatdirekkul, Eddi Esteban, Asher Pasha, Karl-Heinz Kogel,  
Nicholas J. Provart, Sascha Ott, and Patrick Schäfer

2742

**RESEARCH ARTICLES****ERECTA1 Acts Upstream of the OsMCKK10-OsMCK4-OsMPK6 Cascade to Control Spikelet Number by Regulating Cytokinin Metabolism in Rice**Tao Guo, Zi-Qi Lu, Jun-Xiang Shan, Wang-Wei Ye, Nai-Qian Dong,  
and Hong-Xuan Lin

2763

**Karrikin Signaling Acts Parallel to and Additively with Strigolactone Signaling to Regulate Rice Mesocotyl Elongation in Darkness**<sup>[OPEN]</sup>Jianshu Zheng, Kai Hong, Longjun Zeng, Lei Wang, Shujing Kang,  
Minghao Qu, Jiarong Dai, Linyuan Zou, Lixin Zhu, Zhanpeng Tang,  
Xiangbing Meng, Bing Wang, Jiang Hu, Dali Zeng, Yonghui Zhao,  
Peng Cui, Quan Wang, Qian Qian, Yonghong Wang, Jiayang Li,  
and Guosheng Xiong

2780

**The OsGSK2 Kinase Integrates Brassinosteroid and Jasmonic Acid Signaling by Interacting with OsJAZ4**<sup>[OPEN]</sup>Yuqing He, Gaojie Hong, Hehong Zhang, Xiaoxiang Tan, Lulu Li,  
Yaze Kong, Tian Sang, Kaili Xie, Jia Wei, Junmin Li, Fei Yan,  
Pengcheng Wang, Hongning Tong, Chengcai Chu, Jianping Chen,  
and Zongtao Sun

2806

**A SnRK1-ZmRFWD3-Opaque2 Signaling Axis Regulates Diurnal Nitrogen Accumulation in Maize Seeds**<sup>[OPEN]</sup>Chaobin Li, Weiwei Qi, Zheng Liang, Xi Yang, Zeyang Ma,  
and Rentao Song

2823

**Regulation of Female Germline Specification via Small RNA Mobility in Arabidopsis**<sup>[OPEN]</sup>Zhenxia Su, Nannan Wang, Zhimin Hou, Baiyang Li, Dingning Li,  
Yanhui Liu, Hanyang Cai, Yuan Qin, and Xuemei Chen

2842

- A CEP Peptide Receptor-Like Kinase Regulates Auxin Biosynthesis and Ethylene Signaling to Coordinate Root Growth and Symbiotic Nodulation in *Medicago truncatula***<sup>[OPEN]</sup> 2855  
Fugui Zhu, Jie Deng, Hong Chen, Peng Liu, Lihua Zheng, Qinyi Ye, Rui Li, Mathias Brault, Jiangqi Wen, Florian Frugier, Jiangli Dong, and Tao Wang
- Casein Kinase 1 Regulates Cytorhabdovirus Replication and Transcription by Phosphorylating a Phosphoprotein Serine-Rich Motif** 2878  
Qiang Gao, Teng Yan, Zhen-Jia Zhang, Song-Yu Liu, Xiao-Dong Fang, Dong-Min Gao, Yi-Zhou Yang, Wen-Ya Xu, Ji-Hui Qiao, Qing Cao, Zhi-Hang Ding, Ying Wang, Jialin Yu, and Xian-Bing Wang
- Modifying Plant Photosynthesis and Growth via Simultaneous Chloroplast Transformation of Rubisco Large and Small Subunits** 2898  
Elena Martin-Avila, Yi-Leen Lim, Rosemary Birch, Lynnette M.A. Dirk, Sally Buck, Timothy Rhodes, Robert E. Sharwood, Maxim V. Kapralov, and Spencer M. Whitney
- Crystal Structures of the C-Glycosyltransferase UGT708C1 from Buckwheat Provide Insights into the Mechanism of C-Glycosylation** 2917  
Meizi Liu, Dandan Wang, Yang Li, Xuemiao Li, Guangning Zong, Shuang Fei, Xue Yang, Jianping Lin, Xiaoqiang Wang, and Yuequan Shen
- SEIPIN Isoforms Interact with the Membrane-Tethering Protein VAP27-1 for Lipid Droplet Formation**<sup>[OPEN]</sup> 2932  
Michael Scott Greer, Yingqi Cai, Satinder K. Gidda, Nicolas Esnay, Franziska K. Kretzschmar, Damien Seay, Elizabeth McClinchie, Till Ischebeck, Robert T. Mullen, John M. Dyer, and Kent D. Chapman
- Synergy among Exocyst and SNARE Interactions Identifies a Functional Hierarchy in Secretion during Vegetative Growth**<sup>[CC-BY]</sup> 2951  
Emily R. Larson, Jitka Ortmannová, Naomi A. Donald, Jonas Alvim, Michael R. Blatt, and Viktor Žárský
- LUNAPARK Is an E3 Ligase That Mediates Degradation of ROOT HAIR DEFECTIVE3 to Maintain a Tubular ER Network in Arabidopsis** 2964  
Jiaqi Sun, Nooshin Movahed, and Huanquan Zheng
- The Cyclin CYCA3;4 Is a Postprophase Target of the APC/C<sup>CCS52A2</sup> E3-Ligase Controlling Formative Cell Divisions in Arabidopsis** 2979  
Alex Willems, Jefri Heyman, Thomas Eekhout, Ignacio Achon, Jose Antonio Pedroza-Garcia, Tingting Zhu, Lei Li, Ilse Vercauteren, Hilde Van den Daele, Brigitte van de Cotte, Ive De Smet, and Lieven De Veylder
- One C-to-U RNA Editing Site and Two Independently Evolved Editing Factors: Testing Reciprocal Complementation with DYW-Type PPR Proteins from the Moss *Physcomitrium (Physcomitrella) patens* and the Flowering Plants *Macadamia integrifolia* and Arabidopsis** 2997  
Bastian Oldenkott, Matthias Burger, Anke-Christiane Hein, Anja Jörg, Jennifer Senkler, Hans-Peter Braun, Volker Knoop, Mizuki Takenaka, and Mareike Schallenberg-Rüdinger
- The MAF1 Phosphoregulatory Region Controls MAF1 Interaction with the RNA Polymerase III C34 Subunit and Transcriptional Repression in Plants** 3019  
Maxuel Oliveira Andrade, Mauricio Luis Sforça, Fernanda Aparecida Heleno Batista, Ana Carolina Migliorini Figueira, and Celso Eduardo Benedetti

## CORRECTION

3036

Bernoux, M., Timmers, T., Jauneau, A., Brière, C., de Wit, P.J.G.M., Marco, Y., Deslandes, L. (2008). RD19, an *Arabidopsis* cysteine protease required for RRS1-R-mediated resistance, is relocalized to the nucleus by the *Ralstonia solanacearum* PopP2 effector. *Plant Cell* 20: 2252–2264.

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