### ON THE COVER

Stomata are formed through a series of differentiation events mediated by a trio of basic-helix-loop-helix (bHLH) proteins: SPEECHLESS (SPCH), MUTE, and FAMA. Through characterization of a dominant mutant, scream-D (scrm-D), which produces an epidermis consisting entirely of stomata, Kanaoka et al. (pages 1775–1785) identified two paralogous Arabidopsis bHLH proteins, SCRM and SCRM2, that partner with SPCH, MUTE, and FAMA to drive initiation, proliferation, and terminal differentiation of stomata. The cover shows the rosette leaf epidermis of a mute scrm-D double mutant, which is composed of triangular stomatal precursor cells called meristemoids and their sister cells. Surprisingly, SCRM is ICE1, a key upstream regulator of cold-induced gene expression, therefore suggesting a link between the transcriptional regulation of environmental adaptation and development.

### EDITORIAL

**Refining Our Standards**  
Cathie Martin  

### IN THIS ISSUE

**Effector Trafficking: RXLR-dEER as Extra Gear for Delivery into Plant Cells**  
Francine Govers and Klaas Bouwmeester  

### IN BRIEF

**Effectors XopD Suppresses Tissue Degeneration in Xanthomonas-Infected Tomato Leaves**  
Jennifer Mach  

**They All Scream for ICE1/SCRM2: Core Regulatory Units in Stomatal Development**  
Nancy R. Hofmann  

**Auxin Regulation of Late Stamen Development**  
Nancy A. Eckardt  

### LETTERS TO THE EDITOR

**Towards a Systematic Validation of References in Real-Time RT-PCR**  
Laurent Gutierrez, Mélanie Mauriat, Jérôme Pelloux, Catherine Bellini, and Olivier Van Wuytswinkel  

**Eleven Golden Rules of Quantitative RT-PCR**  
Michael K. Udvardi, Tomasz Czechowski, and Wolf-Rüdiger Scheible  

### REVIEW

**The Evolving Complexity of the Auxin Pathway**  
Steffen Lau, Gerd Jürgens, and Ivé De Smet  

### RESEARCH ARTICLES

**Calmodulin7 Plays an Important Role as Transcriptional Regulator in Arabidopsis Seedling Development**  
Ritu Kushwaha, Aparna Singh, and Sudip Chattopadhyay  

**Auxin Regulates Arabidopsis Anther Dehiscence, Pollen Maturation, and Filament Elongation**  
Valentina Cecchetti, Maria Maddalena Altamura, Giuseppina Falasca, Paolo Costantino, and Maura Cardarelli
SCREAM/ICE1 and SCREAM2 Specify Three Cell-State Transitional Steps Leading to Arabidopsis Stomatal Differentiation


Mutations in SUPPRESSOR OF VARIEGATION1, a Factor Required for Normal Chloroplast Translation, Suppress var2-Mediated Leaf Variegation in Arabidopsis

Fei Yu, Xiayan Liu, Muath Alsheikh, Sungsoo Park, and Steve Rodermel

The EPIP Peptide of INFLORESCENCE DEFICIENT IN ABSCISSION Is Sufficient to Induce Abscission in Arabidopsis through the Receptor-Like Kinases HAESA and HAESA-LIKE2

Grethe-Elisabeth Stenvik, Nora M. Tandstad, Yongfeng Guo, Chun-Lin Shi, Wenche Kristiansen, Asbjorn Holmgren, Steven E. Clark, Reidunn B. Aalen, and Melinka A. Butenko

Arabidopsis 10-Formyl Tetrahydrofolate Deformylases Are Essential for Photospiration

Eva Collakova, Aymeric Goyer, Valeria Naponelli, Inga Krassovskaya, Jesse F. Gregory III, Andrew D. Hanson, and Yair Shachar-Hill

Mutation of the Plastidial α-Glucan Phosphorylase Gene in Rice Affects the Synthesis and Structure of Starch in the Endosperm

Hikaru Satoh, Kensuke Shibahara, Takashi Tokunaga, Aiko Nishi, Mikako Tasaki, Seon-Kap Hwang, Thomas W. Okita, Nanae Kaneko, Naoko Fujita, Mayumi Yoshida, Yoko Hosaka, Aya Sato, Yoshinori Utsumi, Takashi Ohdan, and Yasunori Nakamura

Badh2, Encoding Betaine Aldehyde Dehydrogenase, Inhibits the Biosynthesis of 2-Acetyl-1-Pyrroline, a Major Component in Rice Fragrance

Saihua Chen, Yi Yang, Weiwei Shi, Qing Ji, Fei He, Ziding Zhang, Zhukuan Cheng, Xiangnong Liu, and Mingliang Xu

Sphingolipid Long-Chain Base Hydroxylation Is Important for Growth and Regulation of Sphingolipid Content and Composition in Arabidopsis

Ming Chen, Jonathan E. Markham, Charles R. Dietrich, Jan G. Jaworski, and Edgar B. Cahoon

Dolichol Biosynthesis and Its Effects on the Unfolded Protein Response and Abiotic Stress Resistance in Arabidopsis

Hairong Zhang, Kiyoshi Ohyama, Julie Boudet, Zhizhong Chen, Jilai Yang, Min Zhang, Toshiya Muranaka, Christophe Maurel, Jian-Kang Zhu, and Zhizhong Gong

Arabidopsis PUB22 and PUB23 Are Homologous U-Box E3 Ubiquitin Ligases That Play Combinatory Roles in Response to Drought Stress

Seok Keun Cho, Moon Young Ryu, Charlotte Song, June M. Kwak, and Woo Taek Kim

XopD SUMO Protease Affects Host Transcription, Promotes Pathogen Growth, and Delays Symptom Development in Xanthomonas-Infected Tomato Leaves

Jung-Gun Kim, Kyle W. Taylor, Andrew Hotson, Mark Keegan, Eric A. Schmelz, and Mary Beth Mudgett

RXLR-Mediated Entry of Phytophthora sojae Effector Avr1b into Soybean Cells Does Not Require Pathogen-Encoded Machinery

Daolong Dou, Shiv D. Kale, Xia Wang, Rays H.Y. Jiang, Nathan A. Bruce, Felipe D. Arredondo, Xuemin Zhang, and Brett M. Tyler
The *Cladosporium fulvum* Virulence Protein Avr2 Inhibits Host Proteases Required for Basal Defense

H. Peter van Esse, John W. van’t Klooster, Melvin D. Bolton, Koste A. Yadeta, Peter van Baarlen, Sjef Boeren, Jacques Vervoort, Pierre J.G.M. de Wit, and Bart P.H.J. Thomma

Tomato Protein Kinase 1b Mediates Signaling of Plant Responses to Necrotrophic Fungi and Insect Herbivory

Synan AbuQamar, Mao-Feng Chai, Hongli Luo, Fengming Song, and Tesfaye Mengiste

Induced Plant Defenses in the Natural Environment: *Nicotiana attenuata* WRKY3 and WRKY6 Coordinate Responses to Herbivory

Melanie Skibbe, Nan Qu, Ivan Galis, and Ian T. Baldwin

CORRECTION


Online version contains Web-only data.

Open Access articles can be viewed online without a subscription.