ON THE COVER

Suppression of growth of inflorescence leaves, or bracts, has evolved multiple times in diverse angiosperm lineages. Several genes involved in bract suppression have been identified in Arabidopsis, but it is not known whether homologs of these genes play a similar role in other plants with suppressed bracts. Whipple et al. (pages 565–578) identify maize Tsh1, which encodes a GATA zinc-finger protein that is involved in bract suppression in maize. They show that the bract suppression function of Tsh1 is conserved in the grass family, but not in the homologous Arabidopsis gene HAN, suggesting the evolution of distinct bract suppression mechanisms in these lineages. The cover shows an electron micrograph image of the inflorescence of a barley mutant featured in the article.

IN BRIEF

Myo-Inositol Biosynthesis Genes in Arabidopsis: Differential Patterns of Gene Expression and Role in Cell Death
Nancy A. Eckardt

Different Words, Same Message: How Grasses and Arabidopsis Say “Hold the Bract”
Jennifer Mach

Apopomixis and Gene Expression in Boechera
Nancy R. Hofmann

Gibberellin-Auxin Crosstalk Modulates Lateral Root Formation
Kathleen L. Farquharson

REVIEW

Calcium Signals: The Lead Currency of Plant Information Processing
Jörg Kudla, Oliver Batistic, and Kenji Hashimoto

RESEARCH ARTICLES

A Conserved Mechanism of Bract Suppression in the Grass Family
Clinton J. Whipple, Darren H. Hall, Stacy DeBlasio, Fumio Taguchi-Shiobara, Robert J. Schmidt, and David P. Jackson

Sieve Tube Geometry in Relation to Phloem Flow
Daniel L. Mullendore, Carel W. Windt, Henk Van As, and Michael Knoblauch

PSEUDO-RESPONSE REGULATORS 9, 7, and 5 Are Transcriptional Repressors in the Arabidopsis Circadian Clock
Norihito Nakamichi, Takatoshi Kiba, Rossana Henriques, Takeshi Mizuno, Nam-Hai Chua, and Hitoshi Sakakibara

F-Box Proteins FKF1 and LKP2 Act in Concert with ZEITLUPE to Control Arabidopsis Clock Progression
Antoine Baudry, Shogo Ito, Young Hun Song, Alexander A. Strait, Takatoshi Kiba, Sheen Lu, Rossana Henriques, José L. Pruneda-Paz, Nam-Hai Chua, Elaine M. Tobin, Steve A. Kay, and Takato Imaizumi

Gibberelins Regulate Lateral Root Formation in Populus through Interactions with Auxin and Other Hormones
Jiqing Gou, Steven H. Strauss, Chung Jui Tsai, Kai Fang, Yiru Chen, Xiangning Jiang, and Victor B. Busov

SOMBRERO, BEARSKIN1, and BEARSKIN2 Regulate Root Cap Maturation in Arabidopsis
Tom Bennett, Albert van den Toorn, Gabino F. Sanchez-Perez, Ana Campilho, Viola Willemsen, Berend Snel, and Ben Scheres
Apomictic and Sexual Ovules of Boechera Display Heterochronic Global Gene Expression Patterns

Timothy F. Sharbel, Marie-Luise Voigt, José M. Corral, Giulio Galli, Jochen Kumlehn, Christian Klukas, Falk Schreiber, Heiko Vogel, and Björn Rotter

Carbon Starved Anther Encodes a MYB Domain Protein That Regulates Sugar Partitioning Required for Rice Pollen Development

Hui Zhang, Wandi Liang, Xijia Yang, Xue Luo, Ning Jiang, Hong Ma, and Dabing Zhang

The Arabidopsis Floral Homeotic Proteins APETALA3 and PISTILLATA Negatively Regulate the BANQUO Genes Implicated in Light Signaling

Chloe D. Mara, Tengbo Huang, and Vivian F. Irish

SHORT HYPOCOTYL UNDER BLUE1 Truncations and Mutations Alter Its Association with a Signaling Protein Complex in Arabidopsis

Yun Zhou and Min Ni

MGOUN1 Encodes an Arabidopsis Type IB DNA Topoisomerase Required in Stem Cell Regulation and to Maintain Developmentally Regulated Gene Silencing

Philipp Graf, Alicja Dolzblasz, Tobias Würschum, Michael Lenhard, Ulrike Pfrendt, and Thomas Laux

The Arabidopsis Stem Cell Factor POLTERGEIST Is Membrane Localized and Phospholipid Stimulated

Jennifer M. Gagne and Steven E. Clark

Spatial Configuration of Transposable Element Ac Termini Affects Their Ability to Induce Chromosomal Breakage in Maize

Chuanhe Yu, Jianbo Zhang, Vinay Pulletikurti, David F. Weber, and Thomas Peterson

Arabidopsis Homologs of Nucleus- and Phragmoplast-Localized Kinase 2 and 3 and Mitogen-Activated Protein Kinase 4 Are Essential for Microtubule Organization

Martina Beck, George Komis, Jens Müller, Diedrik Menzel, and Jozef Sama

The Coiled-Coil Protein VIG1 Is Essential for Tethering Vacuoles to Mitochondria during Vacuole Inheritance of Cyanidioschyzon merolae


bZIP28 and NF-Y Transcription Factors Are Activated by ER Stress and Assemble into a Transcriptional Complex to Regulate Stress Response Genes in Arabidopsis

Jian-Xiang Liu and Stephen H. Howell

Internal Architecture of Mitochondrial Complex I from Arabidopsis thaliana

Jennifer Klodmann, Stephanie Sunderhaus, Manfred Nimtz, Lothar Jänsch, and Hans-Peter Braun

ANKYRIN REPEAT-CONTAINING PROTEIN 2A Is an Essential Molecular Chaperone for Peroxisomal Membrane-Bound ASCORBATE PEROXIDASE3 in Arabidopsis

Guoxin Shen, Sundaram Kuppu, Sujatha Venkataramani, Jing Wang, Juqiang Yan, Xiaoyun Qiu, and Hong Zhang

RNAi Suppression of Arogenate Dehydratase1 Reveals That Phenylalanine Is Synthesized Predominantly via the Arogenate Pathway in Petunia Petals

Hiroshi Maeda, Aij K Shaşany, Jennifer Schnepp, Irina Orlova, Goro Taguchi, Bruce R. Cooper, David Rhodes, Eran Pichersky, and Natalia Dudareva

Genomic and Coexpression Analyses Predict Multiple Genes Involved in Triterpene Saponin Biosynthesis in Medicago truncatula

Alkylresorcinol Synthases Expressed in *Sorghum bicolor* Root Hairs Play an Essential Role in the Biosynthesis of the Allelopathic Benzoquinone Sorgoleone


**The Arabidopsis thaliana Myo-Inositol 1-Phosphate Synthase1 Gene Is Required for Myo-inositol Synthesis and Suppression of Cell Death**

Janet L. Donahue, Shannon R. Alford, Javad Torabinejad, Rachel E. Kerwin, Aida Nourbakhsh, W. Keith Ray, Marcy Herrick, Xinyi Huang, Blair M. Lyons, Pyae P. Hein, and Glenda E. Gillaspy

High-Affinity Manganese Uptake by the Metal Transporter NRAMP1 Is Essential for Arabidopsis Growth in Low Manganese Conditions

Rémy Cailliatte, Adam Schikora, Jean-François Briat, Stéphane Mari, and Catherine Curie

Endosome-Associated CRT1 Functions Early in Resistance Gene–Mediated Defense Signaling in *Arabidopsis* and Tobacco

Hong-Gu Kang, Chang-Sik Oh, Masanao Sato, Fumiaki Katagiri, Jane Glazebrook, Hideki Takahashi, Pradeep Kachroo, Gregory B. Martin, and Daniel F. Klessig

Promoters of the Barley Germin-Like *GER4* Gene Cluster Enable Strong Transgene Expression in Response to Pathogen Attack

Axel Himmelbach, Luo Liu, Uwe Zierold, Lothar Altschmied, Helmut Maucher, Csófzsika Beier, Doreen Müller, Götz Hensel, Andreas Heise, Andreas Schützendorf, Jochen Kuselmith, and Patrick Schweizer

Common Genetic Pathways Regulate Organ-Specific Infection-Related Development in the Rice Blast Fungus

Sara L. Tucker, Maria I. Besi, Rita Galhano, Marina Franceschetti, Stephan Goetz, Steven Lenhert, Anne Osbourn, and Ane Sesma

Innate Immune Responses Activated in *Arabidopsis* Roots by Microbe-Associated Molecular Patterns

Yves A. Millet, Cristian H. Danna, Nicole K. Clay, Wisuwat Songnuan, Matthew D. Simon, Danièle Werck-Reichhart, and Frederick M. Ausubel

CORRECTION


- 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.
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>eTOCs</td>
<td>Sign up for eTOCs at: <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: <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 The Plant Cell and Plant Physiology is available at: <a href="http://www.aspb.org/publications/subscriptions.cfm">http://www.aspb.org/publications/subscriptions.cfm</a></td>
</tr>
</tbody>
</table>