ON THE COVER

Photosynthetic light harvesting in plants is regulated by phosphorylation-driven state transitions, involving the functional redistribution of the major light-harvesting complex II (LHClI) to balance the relative excitation of PSI and PSII. Pietrzykowska et al. (pages 3646–3660) show that despite their nearly identical amino acid composition, the functional roles of Lhcb1 and Lhcb2 are different but complementary. Results show that both Lhcb1 and Lhcb2 are required for state transitions, but neither alone is sufficient. Lhcb1 was found to be important for grana stacking and membrane reorganization during state transitions, while Lhcb2 has more of a role in mediating the association of LHClI to PSI. The cover image shows electron micrographs of Arabidopsis wild type (top) and an lhcbl mutant (bottom; generated using artificial microRNA) in state 1 (left) or state 2 (right).

IN BRIEF

A Rice KNOX Transcription Factor Represses Brassinosteroid Production in the Shoot Apical Meristem
Kathleen L. Farquharson

Advice to the Lovelorn Polyploid Plant
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Supply Route: ABCG Transporters Act in the Construction of Suberin Barriers
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Hypomethylated Pollen Bypasses the Interploidy Hybridization Barrier in Arabidopsis

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ABCG Transporters Are Required for Suberin and Pollen Wall Extracellular Barriers in Arabidopsis

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BBX19 Interacts with CONSTANS to Repress FLOWERING LOCUS T Transcription, Defining a Flowering Time Checkpoint in Arabidopsis

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Structural Basis for the Oligomerization of the MADS Domain Transcription Factor SEPALLATA3 in Arabidopsis


Resolving Distinct Genetic Regulators of Tomato Leaf Shape within a Heteroblastic and Ontogenetic Context

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The Small Regulatory RNA SyR1/PsrR1 Controls Photosynthetic Functions in Cyanobacteria


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How Vacuolar Sorting Receptor Proteins Interact with Their Cargo Proteins: Crystal Structures of Apo and Cargo-Bound Forms of the Protease-Associated Domain from an Arabidopsis Vacuolar Sorting Receptor

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Structural Studies of Cinnamoyl-CoA Reductase and Cinnamyl-Alcohol Dehydrogenase, Key Enzymes of Monolignol Biosynthesis
