

T H E  
**PLANT**  
C E L L

Volume 26 Number 9 September 2014

The electronic form of this issue, available at [www.plantcell.org](http://www.plantcell.org), is the journal of record.

**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 (LHCII) 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 LHCII to PSI. The cover image shows electron micrographs of *Arabidopsis* wild type (top) and an *lhcb1* mutant (bottom; generated using artificial microRNA) in state 1 (left) or state 2 (right).


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[W](#) Online version contains Web-only data.

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*The Plant Cell* (ISSN 1040-4651, online ISSN 1532-298X) is published monthly (one volume per year) by the American Society of Plant Biologists, 15501 Monona Drive, Rockville, MD 20855-2768, and is produced by Dartmouth Journal Services, Waterbury, VT. The institutional price for the print and online versions is based on type of institution; contact [institution@aspb.org](mailto:institution@aspb.org). Single copies may be purchased for \$40 each, plus \$10 shipping (U.S.) or \$12 (outside U.S.). Members of the American Society of Plant Biologists may subscribe to *The Plant Cell* for \$240. Nonmember individuals may subscribe for \$500. Students may subscribe for \$165. For matters regarding subscriptions, contact Suzanne Cholwek, ASPB, 15501 Monona Drive, Rockville, MD 20855-2768; telephone 301/296-0926; fax 301/251-6740; e-mail [scholwek@aspb.org](mailto:scholwek@aspb.org). Notify ASPB in writing within 3 months (domestic) or 6 months (foreign) of issue date, and defective copies or copies lost in the mail will be replaced. Send all inquiries regarding display advertising to FASEB AdNet, 9650 Rockville Pike, Bethesda, MD 20814-3998; telephone 301/634-7791; fax 301/634-7153; e-mail [adnet@faseb.org](mailto:adnet@faseb.org). Periodicals postage paid at Rockville, MD 20850, and at additional mailing offices.

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