THE
PLANT
CELL

Volume 31 Number 9 September 2019

The electronic form of this issue, available at www.plantcell.org, is the journal of record.

ON THE COVER

In many plant leaves, starch is synthesized during the day and degraded at night to fuel growth and metabolism. Starch is degraded primarily by β-amylases, liberating maltose, but this activity is preceded by glucan phosphorylation and is accompanied by dephosphorylation. A glucan phosphatase family member, LIKE SEX4 1 (LSF1), binds starch and is required for normal starch degradation. Schreier et al. (pages 2169–2186) show that LSF1 does not dephosphorylate glucans, and that glucan binding, but not phosphatase activity, is required for the function of LSF1 in starch degradation. They propose that LSF1 binds β-amylases at the starch granule surface, thereby promoting starch degradation. The cover images show Arabidopsis rosettes harvested at the end of the night and stained for starch with iodine. The lightly stained plants are either wild type, *lsf1* mutant complemented with LSF1, or *lsf1* mutant complemented with LSF1 carrying a mutated phosphatase domain. The dark-stained plants are uncomplemented *lsf1* mutants or *lsf1* mutants complemented with LSF1 carrying a mutated starch binding domain: these plants incompletely degrade their starch during the night and thus accumulate excess starch.

EDITOR PROFILE

IN BRIEF

REVIEW

LARGE-SCALE BIOLOGY ARTICLES

RESEARCH ARTICLES

CORRECTION

[OPEN] Articles can be viewed without a subscription.

The Plant Cell (eISSN 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 subscription price is based on type of institution; contact institution@aspb.org. 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. 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. The online version of *The Plant Cell* is available at www.plantcell.org.

31 (9)
Plant Cell 2019;31;1931-2276