Plant Physiology®

October 2013 • Vol. 163 • No. 2

The electronic form of this issue, available as of October 8, 2013, at www.plantphysiol.org, is considered the journal of record.

On the Cover: Ca^{2+} is a ubiquitous signalling molecule. This Focus Issue contains Updates and experimental reports describing new advances in the measurement of changes in intracellular free Ca^{2+} concentrations, the mechanisms by which dynamical alterations in intracellular free Ca^{2+} generated, and how these Ca^{2+} signals might be decoded. In this issue, Martí et al (pp. 625–634) describe the use of cell-specific enhancer trap lines of Arabidopsis to target the bioluminescent reporter aequorin to specific cell types. Their data demonstrate cell- and stimulus type-specific intracellular Ca^{2+} signals in the aerial parts of the plant, suggesting a mechanism to generate specificity in signaling pathways. The cover shows a confocal scanning laser microscopy image of APOEAQUORIN fused to YELLOW FLUORESCENT PROTEIN (red) in spongy mesophyll cells marked with ER-targeted GREEN FLUORESCENT PROTEIN (green) in the enhancer trap line JR11-2. Chlorophyll autofluorescence from the plastids is shown in blue. Image M.A. Stancombe.

FOCUS ISSUE ON CALCIUM SIGNALING

EDITORIAL

TOPICAL REVIEWS

UPDATES

Continued on next page

Continued from preceding page

RESEARCH ARTICLES

Continued on next page

Continued from preceding page

REGULAR ISSUE

ON THE INSIDE

BREAKTHROUGH TECHNOLOGIES

SCIENTIFIC CORRESPONDENCE

BIOCHEMISTRY AND METABOLISM

Continued on next page

Continued from preceding page

CELL BIOLOGY

Continued on next page

Continued from preceding page

Continued on next page

Continued from preceding page

MEMBRANES, TRANSPORT, AND BIOENERGETICS

SIGNALING AND RESPONSE

Continued on next page

Continued from preceding page

[C] Some figures in this article are displayed in color online but in black and white in the print edition.
[W] The online version of this article contains Web-only data.
[OPEN] Articles can be viewed online without a subscription.