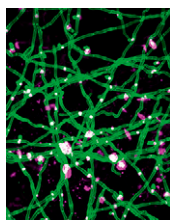


T H E
PLANT
C E L L

Volume 32 Number 5 May 2020

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

ON THE COVER



Biotrophic filamentous phytopathogens such as powdery mildews form feeding structures called haustoria inside host cells for plant-fungus recognition and nutrient uptake. The haustorium is enveloped by a highly specialized extrahaustorial membrane (EHM) that separated each haustorium from the cytoplasm of its host cell. Qin et al. (pages 1665-1688) showed that among the two plasma membrane phosphoinositides in *Arabidopsis*, only PI(4,5)P₂, but not PI4P, is selectively targeted to the EHM. Their results reveal that plant biotrophic and hemibiotrophic pathogens modulate the subcellular redistribution of host phosphoinositides and recruit PI(4,5)P₂ as a susceptibility factor for plant disease. The cover image displays the hyphal development and haustorial formation of the powdery mildew fungus *Erysiphe cichoracearum* on *Arabidopsis* Col-0 at seven days after inoculation. The image is captured by confocal microscopy for surface hyphae and haustoria staining with Alexa Fluor® 488 conjugate of wheat germ agglutinin (green) and callose appositions staining with aniline blue (magenta) at the pathogen penetration sites.

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Telephone: 301/296-0908

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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.

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