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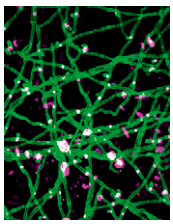
ON THE COVER



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 $PI(4,5)P_2$, 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 $PI(4,5)P_2$ 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.

EDITORIAL

IN BRIEF

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