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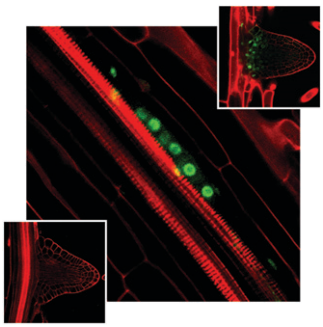
ON THE COVER



Auxin controls various processes in plant development, and one such example is lateral root (LR) formation, a major determinant of the pattern of the root system. It is not understood, however, how auxin regulates the downstream processes associated with LR formation, such as patterned cell divisions, tissue differentiation, and organ morphogenesis. Hirota et al. (pages 2156–2168) report the identification and analysis of the *Arabidopsis PUCHI* gene, which is essential for proper cell division pattern and morphogenesis in early stages of LR formation. *PUCHI* encodes a putative transcription factor of the AP2/EREBP class, and its expression is regulated by auxin through auxin-responsive *cis*-regulatory elements in its promoter. The cover shows a very early stage of LR formation, which is marked by a GFP-PUCHI fusion protein driven by its native promoter. In the *puchi* mutant, the proximal region of LR is highly expanded (bottom-left panel). The top-right panel shows an LR with normal shape in a *puchi* mutant plant complemented with the functional GFP-PUCHI fusion protein.

COMMENTARY

IN THIS ISSUE

IN BRIEF

RESEARCH ARTICLES

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