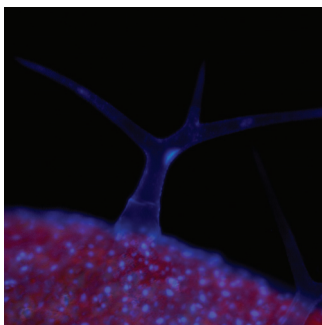


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ON THE COVER



Plant cells frequently undergo endoreduplication, during which chromosomal DNA is successively duplicated in the absence of mitosis. It has been proposed that endoreduplication is regulated at its entry by mitotic cyclin-dependent kinase activity, but the regulatory mechanisms for its termination remain unclear. On pages 382–396, Imai et al. show that the A-type cyclin *CYCA2;3* negatively regulates endocycles and acts as a key regulator of ploidy levels during endoreduplication in *Arabidopsis*. The authors found that the *CYCA2;3* promoter is active in developing trichomes during the termination period of endoreduplication. Loss-of-function mutations of *CYCA2;3* semidominantly promoted endocycles and increased the ploidy levels in mature organs but did not significantly affect the proportion of cells that underwent endoreduplication. In addition, expression of a *CYCA2;3*-GFP fusion protein restrained endocycles in a dose-dependent manner. The cover image shows a 4',6-diamidino-2-phenylindole-stained *Arabidopsis* trichome, which typically has a nuclear DNA content of 32C, in contrast with the 1C DNA content of a haploid genome.

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15501 Monona Drive
Rockville, Maryland 20855-2768
Telephone: 301/251-0560, ext. 119
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^{OA} Open Access articles can be viewed online without a subscription.



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