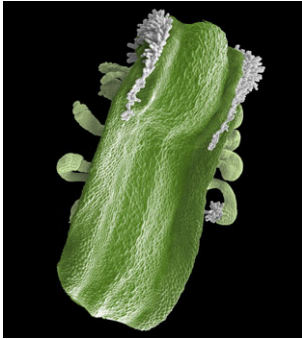
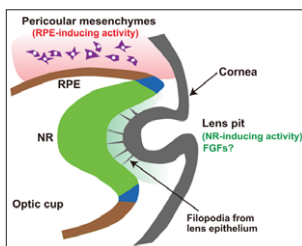


Development



Cover: False-colored scanning electron micrograph of an outer whorl organ from an *apetal2-2* mutant flower. In the absence of APETALA2-mediated repression, floral organ identity genes are misregulated, resulting in the depicted sepal-to-carpel homeotic conversion. The specimen is shown in abaxial (or ventral) view.

See Research article by Krogan et al. on p. 4180.



Organ formation during embryogenesis is a complex process that involves various cell-cell interactions. Recent studies, reviewed here by Yoshiki Sasai and colleagues, have shown that, despite this complexity, organogenesis can be modelled in vitro using stem cells. See Review on p. 4111.

SPOTLIGHTS

- 4095 The ABC model of flower development: then and now
Bowman, J. L., Smyth, D. R. and Meyerowitz, E. M.
- 4099 The zebrafish issue of *Development*
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- 4105 Eph/ephrin signalling during development
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- 4111 In vitro organogenesis in three dimensions: self-organising stem cells
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- 4123 Endogenous Nodal signaling regulates germ cell potency during mammalian testis development
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- 4133 Migration of cardiomyocytes is essential for heart regeneration in zebrafish
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- 4152 Kif7 regulates Gli2 through Sufu-dependent and -independent functions during skin development and tumorigenesis
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- 4162 Glypicans regulate JAK/STAT signaling and distribution of the Unpaired morphogen
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- 4172 Wapl antagonizes cohesin binding and promotes Polycomb-group silencing in *Drosophila*
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- 4180 APETALA2 negatively regulates multiple floral organ identity genes in *Arabidopsis* by recruiting the co-repressor TOPLESS and the histone deacetylase HDA19
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- 4191 Intercellular calcium signaling in a gap junction-coupled cell network establishes asymmetric neuronal fates in *C. elegans*
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- 4202 Cytoplasmic Ca²⁺ changes dynamically during the interaction of the pollen tube with synergid cells
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- 4210 Age-related changes in expression and function of Toll-like receptors in human skin
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- 4220 BMP, Wnt and FGF signals are integrated through evolutionarily conserved enhancers to achieve robust expression of Pax3 and Zic genes at the zebrafish neural plate border
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- 4232 Gata2 provides an early anterior bias and uncovers a global positioning system for polarity in the amniote embryo
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- 4239 Parathyroid hormone-related protein activates Wnt signaling to specify the embryonic mammary mesenchyme
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- 4250 *Smad4* is required to induce digit ray primordia and to initiate the aggregation and differentiation of chondrogenic progenitors in mouse limb buds
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- 4261 The roof plate boundary is a bi-directional organiser of dorsal neural tube and choroid plexus development
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TECHNICAL PAPERS

- 4271 Quantitative semi-automated analysis of morphogenesis with single-cell resolution in complex embryos
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- 4280 Rapid positional cloning of zebrafish mutations by linkage and homozygosity mapping using whole-genome sequencing
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- 4291 Erratum