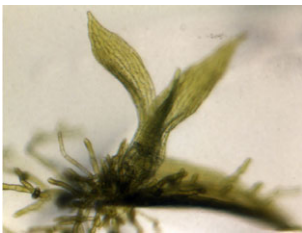


# Development



**Cover:** A transgenic *Arabidopsis thaliana* flower. Ectopic activation of the microRNA-regulated APETALA2 transcription factor has led to the formation of many extra petals and carpel-like organs. **See Research article by Wollmann et al. on p. 3633.**



In the first of our new Evolutionary crossroads in developmental biology series, Prigge and Bezanilla introduce *Physcomitrella patens*, a moss from this ancient, non-vascular plant lineage, studies of which are distinguishing ancestral developmental mechanisms from those that are novel innovations in flowering plants. **See Primer on p. 3535.**

## PRIMER

- 3535** Evolutionary crossroads in developmental biology: *Physcomitrella patens*  
Prigge, M. J. and Bezanilla, M.

## DEVELOPMENT AND STEM CELLS

- 3545** Identification of putative dental epithelial stem cells in a lizard with life-long tooth replacement  
Handrigan, G. R., Leung, K. J. and Richman, J. M.
- 3551** Oct1 regulates trophoblast development during early mouse embryogenesis  
Sebastiano, V., Dalvai, M., Gentile, L., Schubart, K., Sutter, J., Wu, G.-M., Tapia, N., Esch, D., Ju, J.-Y., Hübner, K., Arauzo Bravo, M. J., Schöler, H. R., Cavaleri, F. and Matthias, P.
- 3561** Serpent, Suppressor of Hairless and U-shaped are crucial regulators of *hedgehog* niche expression and prohemocyte maintenance during *Drosophila* larval hematopoiesis  
Tokusumi, Y., Tokusumi, T., Stoller-Conrad, J. and Schulz, R. A.
- 3569** Adult epidermal Notch activity induces dermal accumulation of T cells and neural crest derivatives through upregulation of jagged 1  
Ambler, C. A. and Watt, F. M.
- 3581** WUSCHEL mediates stem cell homeostasis by regulating stem cell number and patterns of cell division and differentiation of stem cell progenitors  
Yadav, R. K., Tavakkoli, M. and Reddy, G. V.

## RESEARCH ARTICLES

- 3591** Cell-autonomous integrin control of Wnt and Notch signalling during somitogenesis  
Rallis, C., Pinchin, S. M. and Ish-Horowitz, D.
- 3603** The *C. elegans* peroxidase PNX-2 is essential for embryonic morphogenesis and inhibits adult axon regeneration  
Gotenstein, J. R., Swale, R. E., Fukuda, T., Wu, Z., Giurumescu, C. A., Goncharov, A., Jin, Y. and Chisholm, A. D.
- 3615** Embryonic multipotent progenitors remodel the *Drosophila* airways during metamorphosis  
Pitsouli, C. and Perrimon, N.
- 3625** Notch signalling regulates left-right asymmetry through ciliary length control  
Lopes, S. S., Lourenço, R., Pacheco, L., Moreno, N., Kreiling, J. and Saúde, L.
- 3633** On reconciling the interactions between APETALA2, miR172 and AGAMOUS with the ABC model of flower development  
Wollmann, H., Mica, E., Todesco, M., Long, J. A. and Weigel, D.
- 3643** Schwann cells reposition a peripheral nerve to isolate it from postembryonic remodeling of its targets  
Raphael, A. R., Perlin, J. R. and Talbot, W. S.
- 3651** Three-dimensional cartography of hematopoietic clusters in the vasculature of whole mouse embryos  
Yokomizo, T. and Dzierzak, E.
- 3663** The Flamingo ortholog FMI-1 controls pioneer-dependent navigation of follower axons in *C. elegans*  
Steimel, A., Wong, L., Huarcaya Najarro, E., Ackley, B. D., Garriga, G. and Hutter, H.

- 3675** Survival strategies of a sterol auxotroph  
Carvalho, M., Schwudke, D., Sampaio, J. L., Palm, W., Riezman, I., Dey, G., Gupta, G. D., Mayor, S., Riezman, H., Schevchenko, A., Kurzchalia, T. V. and Eaton, S.
- 3687** Expression and function of the *empty spiracles* gene in olfactory sense organ development of *Drosophila melanogaster*  
Sen, S., Hartmann, B., Reichert, H. and Rodrigues, V.
- 3697** An anteroposterior wave of vascular inhibitor downregulation signals aortae fusion along the embryonic midline axis  
Garriock, R. J., Czeisler, C., Ishii, Y., Navetta, A. M. and Mikawa, T.
- 3707** Frizzled 1 and frizzled 2 genes function in palate, ventricular septum and neural tube closure: general implications for tissue fusion processes  
Yu, H., Smallwood, P. M., Wang, Y., Vidaltamayo, R., Reed, R. and Nathans, J.
- 3719** Disabled is a bona fide component of the Abl signaling network  
Song, J. K., Kannan, R., Merdes, G., Singh, J., Mlodzik, M. and Giniger, E.