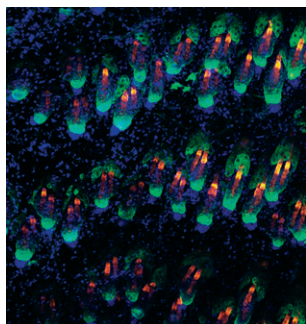
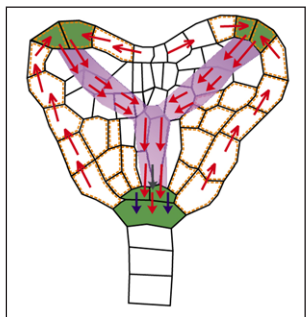


# Development



**Cover:** Whole-mount view of adult mouse back skin. Epidermal cells are labelled with antibody against keratin 14 (green), hair shafts with dsRed (red) and nuclei with DAPI (blue). Dermal papillae are visualised as clusters of blue nuclei at the base of each hair follicle. **See Research article by Driskell et al. on p. 2815.**



Petrášek and Friml review how the coordinated activity of several auxin transport systems regulates the directional flow of auxin, and discuss how this activity contributes to diverse developmental processes, including embryogenesis and organogenesis. **See Primer on p. 2675.**

## PRIMER

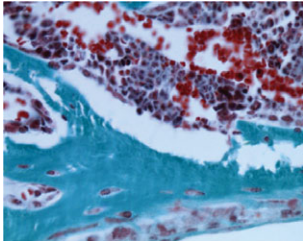
- 2675** Auxin transport routes in plant development  
**Petrášek, J. and Friml, J.**

## RESEARCH REPORT

- 2689** The *Tbx20* homologs *midline* and *H15* specify ventral fate in the *Drosophila melanogaster* leg  
**Svendsen, P. C., Formaz-Preston, A., Leal, S. M. and Brook, W. J.**

## RESEARCH ARTICLES

- 2695** *Xenopus* oocytes reactivate muscle gene transcription in transplanted somatic nuclei independently of myogenic factors  
**Biddle, A., Simeoni, I. and Gurdon, J. B.**
- 2705** Lats kinase is involved in the intestinal apical membrane integrity in the nematode *Caenorhabditis elegans*  
**Kang, J., Shin, D., Yu, J.-R. and Lee, J.**
- 2717**  $\beta 1$  integrins are required for normal CNS myelination and promote AKT-dependent myelin outgrowth  
**Barros, C. S., Nguyen, T., Spencer, K. S. R., Nishiyama, A., Colognato, H. and Müller, U.**
- 2725** UNC-83 is a nuclear-specific cargo adaptor for kinesin-1-mediated nuclear migration  
**Meyerzon, M., Fridolfsson, H. N., Ly, N., McNally, F. J. and Starr, D. A.**
- 2735** The NK-2 class homeodomain factor CEH-51 and the T-box factor TBX-35 have overlapping function in *C. elegans* mesoderm development  
**Broitman-Maduro, G., Owraghi, M., Hung, W. W. K., Kuntz, S., Sternberg, P. W. and Maduro, M. F.**
- 2747** Regulation of bone formation and remodeling by G-protein-coupled receptor 48  
**Luo, J., Zhou, W., Zhou, X., Li, D., Weng, J., Yi, Z., Cho, S. G., Li, C., Yi, T., Wu, X., Li, X.-Y., de Crombrughe, B., Höök, M. and Liu, M.**
- 2757** The Integrator subunits function in hematopoiesis by modulating Smad/BMP signaling  
**Tao, S., Cai, Y. and Sampath, K.**
- 2767** The apicobasal polarity kinase aPKC functions as a nuclear determinant and regulates cell proliferation and fate during *Xenopus* primary neurogenesis  
**Sabherwal, N., Tsutsui, A., Hodge, S., Wei, J., Chalmers, A. D. and Papalopulu, N.**
- 2779** Distinct functional specificities are associated with protein isoforms encoded by the *Drosophila* dorsal-ventral patterning gene *pipe*  
**Zhang, Z., Zhu, X., Stevens, L. M. and Stein, D.**
- 2791**  $\beta 1$  integrins are required for the invasion of the caecum and proximal hindgut by enteric neural crest cells  
**Breau, M. A., Dahmani, A., Broders-Bondon, F., Thiery, J.-P. and Dufour, S.**
- 2803** Rab5-mediated endocytosis of activin is not required for gene activation or long-range signalling in *Xenopus*  
**Hagemann, A. I., Xu, X., Nentwich, O., Hyvonen, M. and Smith, J. C.**
- 2815** Sox2-positive dermal papilla cells specify hair follicle type in mammalian epidermis  
**Driskell, R. R., Giangreco, A., Jensen, K. B., Mulder, K. W. and Watt, F. M.**



An osteoid synthesis defect is revealed by Goldner staining in a bone from a 1-month-old mouse that carries a null mutation in G-protein-coupled receptor 48 (Gpr48), from a study that shows that Gpr48 regulates bone formation and remodelling. **See Research article by Luo et al. on p. 2747.**

- 2825** Conditional inactivation of *Has2* reveals a crucial role for hyaluronan in skeletal growth, patterning, chondrocyte maturation and joint formation in the developing limb  
**Matsumoto, K., Li, Y., Jakuba, C., Sugiyama, Y., Sayo, T., Okuno, M., Dealy, C. N., Toole, B. P., Takeda, J., Yamaguchi, Y. and Kosher, R. A.**
- 2837** *Nkcc1* (Slc12a2) is required for the regulation of endolymph volume in the otic vesicle and swim bladder volume in the zebrafish larva  
**Abbas, L. and Whitfield, T. T.**

#### DEVELOPMENT AND DISEASE

- 2849** Wash functions downstream of Rho and links linear and branched actin nucleation factors  
**Liu, R., Abreu-Blanco, M. T., Barry, K. C., Linardopoulou, E. V., Osborn, G. E. and Parkhurst, S. M.**