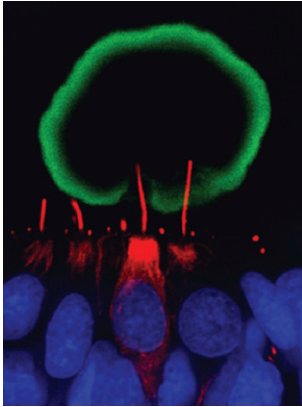
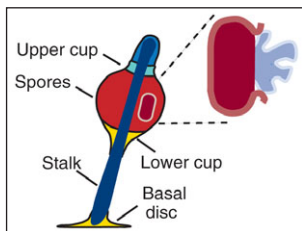


# Development



**Cover:** Developing hair cells (acetylated tubulin, red) in the inner ear of a zebrafish embryo at 30 hours post-fertilisation, with their long kinocilia attached to the otolith (Starmaker, green). Nuclei are labelled with DAPI (blue). The immotile kinocilia serve as static tethers for otolith crystallisation. **See Research article by Yu et al. on p. 487.**



As part of the Evolutionary crossroads in developmental biology series, Pauline Schaap introduces *Dictyostelium discoideum*, a social amoeboid that exists as both uni- and multicellular life forms, studies of which have provided key insights into the evolution of multicellularity. **See Primer on p. 387.**

## PRIMER

- 387** Evolutionary crossroads in developmental biology: *Dictyostelium discoideum*  
Schaap, P.

## DEVELOPMENT AND STEM CELLS

- 397** Her9 represses neurogenic fate downstream of Tbx1 and retinoic acid signaling in the inner ear  
Radosevic, M., Robert-Moreno, À., Coolen, M., Bally-Cuif, L. and Alsina, B.
- 409** The Wnt receptor Ryk controls specification of GABAergic neurons versus oligodendrocytes during telencephalon development  
Zhong, J., Kim, H.-T., Lyu, J., Yoshikawa, K., Nakafuku, M. and Lu, W.
- 421** Combinatorial cell-specific regulation of GSK3 directs cell differentiation and polarity in *Dictyostelium*  
Kim, L., Brzostowski, J., Majithia, A., Lee, N.-S., McMains, V. and Kimmel, A. R.
- 431** Lineage tracing reveals the dynamic contribution of *Hes1*<sup>+</sup> cells to the developing and adult pancreas  
Kopinke, D., Brailsford, M., Shea, J. E., Leavitt, R., Scaife, C. L. and Murtaugh, L. C.
- 443** Combinatorial regulation of optic cup progenitor cell fate by SOX2 and PAX6  
Matsushima, D., Heavner, W. and Pevny, L. H.

## RESEARCH ARTICLES

- 455** Regulation of cofilin phosphorylation and asymmetry in collective cell migration during morphogenesis  
Zhang, L., Luo, J., Wan, P., Wu, J., Laski, F. and Chen, J.
- 465** Role of Tbx2 in defining the territory of the pronephric nephron  
Cho, G.-S., Choi, S.-C., Park, E. C. and Han, J.-K.
- 475** Rapid differential transport of Nodal and Lefty on sulfated proteoglycan-rich extracellular matrix regulates left-right asymmetry in *Xenopus*  
Marjoram, L. and Wright, C.
- 487** Cilia-driven fluid flow as an epigenetic cue for otolith biomineralization on sensory hair cells of the inner ear  
Yu, X., Lau, D., Ng, C. P. and Roy, S.
- 495** The disintegrin/metalloproteinase Adam10 is essential for epidermal integrity and Notch-mediated signaling  
Weber, S., Niessen, M. T., Prox, J., Lüllmann-Rauch, R., Schmitz, A., Schwanbeck, R., Blobel, C. P., Jorissen, E., de Strooper, B., Niessen, C. M. and Saftig, P.
- 507** *C. elegans bicd-1*, homolog of the *Drosophila* dynein accessory factor *Bicaudal D*, regulates the branching of PVD sensory neuron dendrites  
Aguirre-Chen, C., Bülow, H. E. and Kaprielian, Z.
- 519** F3/contactin and TAG1 play antagonistic roles in the regulation of sonic hedgehog-induced cerebellar granule neuron progenitor proliferation  
Xenaki, D., Martin, I. B., Yoshida, L., Ohshima, K., Gennarini, G., Grumet, M., Sakurai, T. and Furley, A. J. W.
- 531** Spatial and temporal requirements for sonic hedgehog in the regulation of thalamic interneuron identity  
Jeong, Y., Dolson, D. K., Waclaw, R. R., Matise, M. P., Sussel, L., Campbell, K., Kaestner, K. H. and Epstein, D. J.

- 543 Wnt/PCP signaling controls intracellular position of MTOCs during gastrulation convergence and extension movements  
**Sepich, D. S., Usmani, M., Pawlicki, S. and Solnica-Krezel, L.**
- 553 Sugar-free frosting, a homolog of SAD kinase, drives neural-specific glycan expression in the *Drosophila* embryo  
**Baas, S., Sharrow, M., Kotu, V., Middleton, M., Nguyen, K., Flanagan-Steet, H., Aoki, K. and Tiemeyer, M.**
- 565 PDGF-A controls mesoderm cell orientation and radial intercalation during *Xenopus* gastrulation  
**Damm, E. W. and Winklbauer, R.**
- 577 Coordination of mitosis and morphogenesis: role of a prolonged G2 phase during chordate neurulation  
**Ogura, Y., Sakaue-Sawano, A., Nakagawa, M., Satoh, N., Miyawaki, A. and Sasakura, Y.**
- 589 *Xenopus* germline *nanos1* is translationally repressed by a novel structure-based mechanism  
**Luo, X., Nerlick, S., An, W. and King, M. L.**