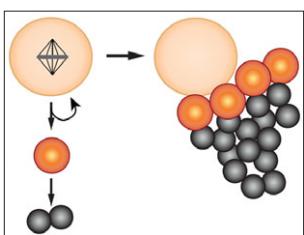


# Development



**Cover:** In the *Arabidopsis* sepal epidermis, differences in cell size correlate with differences in enhancer expression. Large cells express the giant cell marker (blue and pale yellow nuclear-localised signal), whereas small cells express a different marker (green endoplasmic reticulum-localised signal). Propidium iodide (red) stains the cell wall to visualise cell size. See Research article by Roeder et al. on p. 4416.



As part of the 'Development: the big picture' series, Homem and Knoblich explain why *Drosophila* neuroblasts, the stem cells of the developing fly brain, have emerged as a key model system for neural stem cell biology. See Primer on p. 4297.

## SPOTLIGHT

- 4293 Piecing together the vertebrate skull  
Le Douarin, N. M.

## PRIMERS

- 4297 *Drosophila* neuroblasts: a model for stem cell biology
- Homem, C. C. F. and Knoblich, J. A.

- 4311 Endocytic receptor-mediated control of morphogen signaling  
Willnow, T. E., Christ, A. and Hammes, A.

## DEVELOPMENT AND STEM CELLS

- 4321 SUMO1-activating enzyme subunit 1 is essential for the survival of hematopoietic stem/progenitor cells in zebrafish  
Li, X., Lan, Y., Xu, J., Zhang, W. and Wen, Z.
- 4330 Epigenetic reprogramming in somatic cells induced by extract from germinal vesicle stage pig oocytes  
Bui, H.-T., Kwon, D.-N., Kang, M.-H., Oh, M.-H., Park, M.-R., Park, W.-J., Paik, S.-S., Van Thuan, N. and Kim, J.-H.

## RESEARCH REPORT

- 4341 A segmentation clock operating in blastoderm and germband stages of *Tribolium* development  
El-Sherif, E., Averof, M. and Brown, S. J.

## RESEARCH ARTICLES

- 4347 Retinoic acid signaling in Sertoli cells regulates organization of the blood-testis barrier through cyclical changes in gene expression  
Hasegawa, K. and Saga, Y.
- 4356 miR-1 and miR-206 regulate angiogenesis by modulating VegfA expression in zebrafish  
Stahlhut, C., Suárez, Y., Lu, J., Mishima, Y. and Giraldez, A. J.
- 4365 Different assemblies of Notch receptors coordinate the distribution of the major bronchial Clara, ciliated and neuroendocrine cells  
Morimoto, M., Nishinakamura, R., Saga, Y. and Kopan, R.
- 4374 A conserved function for Strabismus in establishing planar cell polarity in the ciliated ectoderm during cnidarian larval development  
Momose, T., Kraus, Y. and Houlston, E.
- 4383 Frizzled 2 and frizzled 7 function redundantly in convergent extension and closure of the ventricular septum and palate: evidence for a network of interacting genes  
Yu, H., Ye, X., Guo, N. and Nathans, J.
- 4395 A dual function for canonical Wnt/β-catenin signaling in the developing mammalian cochlea  
Jacques, B. E., Puligilla, C., Weichert, R. M., Ferrer-Vaquer, A., Hadjantonakis, A.-K., Kelley, M. W. and Dabdoub, A.
- 4405 Dishevelled limits Notch signalling through inhibition of CSL  
Collu, G. M., Hidalgo-Sastre, A., Acar, A., Bayston, L., Gildea, C., Leverentz, M. K., Mills, C. G., Owens, T. W., Meurette, O., Dorey, K. and Brennan, K.

- 4416** Cell cycle regulates cell type in the *Arabidopsis* sepal  
**Roeder, A. H. K., Cunha, A., Ohno, C. K. and Meyerowitz, E. M.**
- 4428** Twist1 mediates repression of chondrogenesis by  $\beta$ -catenin to promote cranial bone progenitor specification  
**Goodnough, L. H., Chang, A. T., Treloar, C., Yang, J., Scacheri, P. C. and Atit, R. P.**
- 4439** Autotaxin/Lpar3 signaling regulates Kupffer's vesicle formation and left-right asymmetry in zebrafish  
**Lai, S.-L., Yao, W.-L., Tsao, K.-C., Houben, A. J. S., Albers, H. M. H. G., Ovaa, H., Moolenaar, W. H. and Lee, S.-J.**
- 4449** Endothelial deletion of murine *Jag1* leads to valve calcification and congenital heart defects associated with Alagille syndrome  
**Hofmann, J. J., Briot, A., Enciso, J., Zovein, A. C., Ren, S., Zhang, Z. W., Radtke, F., Simons, M., Wang, Y. and Iruela-Arispe, M. L.**
- 4461** WNT4 and RSPO1 together are required for cell proliferation in the early mouse gonad  
**Chassot, A.-A., Bradford, S. T., Auguste, A., Gregoire, E. P., Pailhoux, E., de Rooij, D. G., Schedl, A. and Chaboissier, M.-C.**
- 4473** HIF1 $\alpha$  is a central regulator of collagen hydroxylation and secretion under hypoxia during bone development  
**Bentovim, L., Amarilio, R. and Zelzer, E.**

**TECHNICAL PAPER**

- 4484** A fast and sensitive alternative for  $\beta$ -galactosidase detection in mouse embryos  
**Sundararajan, S., Wakamiya, M., Behringer, R. R. and Rivera-Pérez, J. A.**
- 4491** Corrigendum
- 4492** Corrigendum