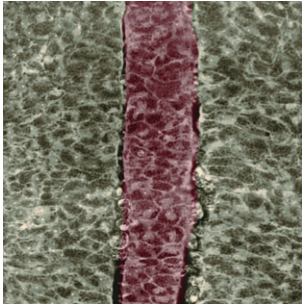
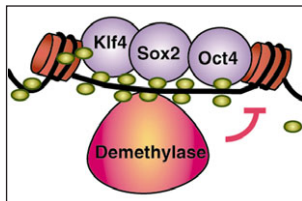


# Development



**Cover:** Notochord (false-coloured red) and adjacent pre-somitic mesoderm in a dorsal isolate from a mid-gastrula-stage frog embryo. En face confocal mosaic of a fixed and cleared dorsal isolate injected at the one-cell stage with rhodamine-dextran amine. Anterior is at the top. **See Research article by Zhou et al. on p. 677.**



Hochedlinger and Plath discuss recent advances in transcription factor-induced reprogramming of somatic cells in their historical context and examine how the mechanisms involved relate to other cell fate reprogramming events, whether naturally occurring or experimentally induced. **See Review on p. 509.**

## REVIEW

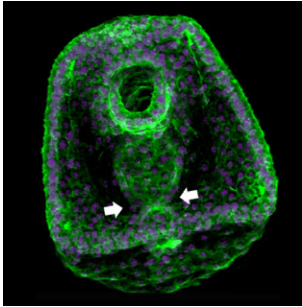
- 509** Epigenetic reprogramming and induced pluripotency  
Hochedlinger, K. and Plath, K.

## RESEARCH REPORT

- 525** The long noncoding RNA *Kcnq1ot1* organises a lineage-specific nuclear domain for epigenetic gene silencing  
Redrup, L., Branco, M. R., Perdeaux, E. R., Krueger, C., Lewis, A., Santos, F., Nagano, T., Cobb, B. S., Fraser, P. and Reik, W.

## RESEARCH ARTICLES

- 531** *Pitx3* potentiates *Nurr1* in dopamine neuron terminal differentiation through release of SMRT-mediated repression  
Jacobs, F. M. J., van Erp, S., van der Linden, A. J. A., von Oerthel, L., Burbach, J. P. H. and Smidt, M. P.
- 541** Two *ParaHox* genes, *SpLox* and *SpCdx*, interact to partition the posterior endoderm in the formation of a functional gut  
Cole, A. G., Rizzo, F., Martinez, P., Fernandez-Serra, M. and Arnone, M. I.
- 551** Glycosphingolipids control the extracellular gradient of the *Drosophila* EGFR ligand Gurken  
Pizette, S., Rabouille, C., Cohen, S. M. and Théron, P.
- 563** The cell migration molecule UNC-53/NAV2 is linked to the ARP2/3 complex by ABI-1  
Schmidt, K. L., Marcus-Gueret, N., Adeleye, A., Webber, J., Baillie, D. and Stringham, E. G.
- 575** A role for Syndecan-4 in neural induction involving ERK- and PKC-dependent pathways  
Kuriyama, S. and Mayor, R.
- 585** *Sall* genes regulate region-specific morphogenesis in the mouse limb by modulating *Hox* activities  
Kawakami, Y., Uchiyama, Y., Rodriguez Esteban, C., Inenaga, T., Koyano-Nakagawa, N., Kawakami, H., Marti, M., Kmita, M., Monaghan-Nichols, P., Nishinakamura, R. and Izpisua Belmonte, J. C.
- 595** Notch mediates Wnt and BMP signals in the early separation of smooth muscle progenitors and blood/endothelial common progenitors  
Shin, M., Nagai, H. and Sheng, G.
- 605** Formation of the *bicoid* morphogen gradient: an mRNA gradient dictates the protein gradient  
Spirov, A., Fahmy, K., Schneider, M., Frei, E., Noll, M. and Baumgartner, S.
- 615** *Hand2* controls osteoblast differentiation in the branchial arch by inhibiting DNA binding of Runx2  
Funato, N., Chapman, S. L., McKee, M. D., Funato, H., Morris, J. A., Shelton, J. M., Richardson, J. A. and Yanagisawa, H.
- 627** The polarly localized D6 PROTEIN KINASE is required for efficient auxin transport in *Arabidopsis thaliana*  
Zourelidou, M., Müller, I., Willige, B. C., Nill, C., Jikumaru, Y., Li, H. and Schwechheimer, C.
- 637** Rostral and caudal pharyngeal arches share a common neural crest ground pattern  
Minoux, M., Antonarakis, G. S., Kmita, M., Duboule, D. and Rijli, F. M.



Oral view of a *Strongylocentrotus purpuratus* stage I pluteus larva with phalloidin-stained actin (green) and counterstained nuclei (purple), from a study that reports that the ParaHox gene orthologue *SpLox* is essential for the development of a functional gut. See Research report on p. 541.

- 647** Definitive hematopoietic stem/progenitor cells manifest distinct differentiation output in the zebrafish VDA and PBI  
Jin, H., Sood, R., Xu, J., Zhen, F., English, M. A., Liu, P. P. and Wen, Z.
- 655** The *Talpid3* gene (*KIAA0586*) encodes a centrosomal protein that is essential for primary cilia formation  
Yin, Y., Bangs, F., Paton, I. R., Prescott, A., James, J., Davey, M. G., Whitley, P., Genikhovich, G., Technau, U., Burt, D. W. and Tickle, C.
- 665** Early mouse caudal development relies on crosstalk between retinoic acid, Shh and Fgf signalling pathways  
Ribes, V., Le Roux, I., Rhinn, M., Schuhbaur, B. and Dollé, P.
- 677** Actomyosin stiffens the vertebrate embryo during crucial stages of elongation and neural tube closure  
Zhou, J., Kim, H. Y. and Davidson, L. A.
- 689** Dual sex-specific functions of *Drosophila* Upstream of N-ras in the control of X chromosome dosage compensation  
Patalano, S., Mihailovich, M., Belacortu, Y., Paricio, N. and Gebauer, F.
- 699** Corrigendum