

Development



Cover: Fgfr1 signaling through Frs2/Frs3 is required for neural tube closure. The neural tube remains completely open in the spinal region of an *Fgfr1*^{ΔFrs2/ΔFrs3} E10.5 mouse embryo. The dorsal spinal neuroepithelium is labeled by *Hoxb1* in situ hybridization. See article by Hoch and Soriano on p. 663.



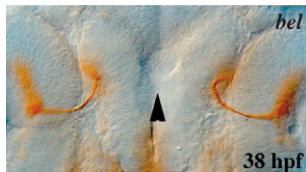
Xenopus embryos injected with a *XHas2* morpholino. The embryos bend on the injected side, shown by Salmon-gal staining in red (blue staining, cardiac actin). Ori et al. investigate in this study the role of *XHas2* and its receptor *XCD44* in *Xenopus* somitogenesis and precursor cell migration. See article on p. 631.

CORRESPONDENCE

- 579 Not all lunatic fringe null female mice are infertile
Xu, J., Norton, C. R. and Gridley, T.
- 579 A loss of lunatic fringe is associated with female infertility
Hahn, K. L., Johnson, J., Beres, B. J. and Wilson-Rawls, J.

RESEARCH ARTICLES

- 581 Motoneurons and oligodendrocytes are sequentially generated from neural stem cells but do not appear to share common lineage-restricted progenitors in vivo
Wu, S., Wu, Y. and Capecchi, M. R.
- 591 Granulosa cells regulate intracellular pH of the murine growing oocyte via gap junctions: development of independent homeostasis during oocyte growth
FitzHarris, G. and Baltz, J. M.
- 601 Loss of myogenin in postnatal life leads to normal skeletal muscle but reduced body size
Knapp, J. R., Davie, J. K., Myer, A., Meadows, E., Olson, E. N. and Klein, W. H.
- 611 Inhibition of germline proliferation during *C. elegans* dauer development requires PTEN, LKB1 and AMPK signalling
Narbonne, P. and Roy, R.
- 621 URI-1 is required for DNA stability in *C. elegans*
Parusel, C. T., Kritikou, E. A., Hengartner, M. O., Krek, W. and Gotta, M.
- 631 XHas2 activity is required during somitogenesis and precursor cell migration in *Xenopus* development
Ori, M., Nardini, M., Casini, P., Perris, R. and Nardi, I.
- 641 Direct regulation of *egl-1* and of programmed cell death by the Hox protein MAB-5 and by CEH-20, a *C. elegans* homolog of Pbx1
Liu, H., Strauss, T. J., Potts, M. B. and Cameron, S.
- 651 Nkx3.2/Bapx1 acts as a negative regulator of chondrocyte maturation
Provot, S., Kempf, H., Murtaugh, L. C., Chung, U.-i., Kim, D.-W., Chyung, J., Kronenberg, H. M. and Lassar, A. B.
- 663 Context-specific requirements for Fgfr1 signaling through Frs2 and Frs3 during mouse development
Hoch, R. V. and Soriano, P.
- 675 Extracellular nucleotide signaling in adult neural stem cells: synergism with growth factor-mediated cellular proliferation
Mishra, S. K., Braun, N., Shukla, V., Füllgrabe, M., Schomerus, C., Korf, H.-W., Gachet, C., Ikehara, Y., Sévigny, J., Robson, S. C. and Zimmermann, H.
- 685 Regulation of somitogenesis by Ena/VASP proteins and FAK during *Xenopus* development
Kragtorp, K. A. and Miller, J. R.
- 697 The *C. elegans* Myt1 ortholog is required for the proper timing of oocyte maturation
Burrows, A. E., Scurman, B. K., Kosinski, M. E., Richie, C. T., Sadler, P. L., Schumacher, J. M. and Golden, A.
- 711 Developmental control of nuclear morphogenesis and anchoring by *charleston*, identified in a functional genomic screen of *Drosophila* cellularisation
Pilot, F., Philippe, J.-M., Lemmers, C., Chauvin, J.-P. and Lecuit, T.



In zebrafish *belladonna* (*bel*) mutants, retinal ganglion cell axons (labelled with ZN-5) project ipsilaterally at 38 hpf, instead of crossing at the midline. Seth et al. report that *bel* encodes *lhx2*, and that *Lhx2* functions in midline axon guidance, forebrain patterning and eye development. See article on p. 725.

- 725** *belladonna* (*lhx2*) is required for neural patterning and midline axon guidance in the zebrafish forebrain

Seth, A., Culverwell, J., Walkowicz, M., Toro, S., Rick, J. M., Neuhauss, S. C. F., Varga, Z. M. and Karlstrom, R. O.

- 737** Smooth muscle of the dorsal aorta shares a common clonal origin with skeletal muscle of the myotome

Esner, M., Meilhac, S. M., Relaix, F., Nicolas, J.-F., Cossu, G. and Buckingham, M. E.

DEVELOPMENT AND DISEASE

- 751** Human trophoblast survival at low oxygen concentrations requires metalloproteinase-mediated shedding of heparin-binding EGF-like growth factor

Armant, D. R., Kilburn, B. A., Petkova, A., Edwin, S. S., Duniec-Dmuchowski, Z. M., Edwards, H. J., Romero, R. and Leach, R. E.

- 761** A functional screen for sonic hedgehog regulatory elements across a 1 Mb interval identifies long-range ventral forebrain enhancers

Jeong, Y., El-Jaick, K., Roessler, E., Muenke, M. and Epstein, D. J.