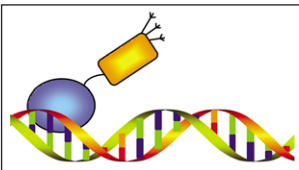


# Development



**Cover:** The Polycomb gene *FIE* is expressed (blue) in unfertilised egg cells of the moss *Physcomitrella patens* (right) and expression ceases after fertilisation in the developing diploid sporophyte (left). In situ GUS staining of two female sex organs (archegonia) of a transgenic plant expressing a translational fusion of *FIE-uidA* under control of the native *FIE* promoter. See Research article by Mosquana et al. on p. 2433.



Understanding how cell identity is determined is a fundamental goal of developmental biology. Ian Chambers and Simon Tomlinson discuss how the transcription factors Oct4, Sox2 and Nanog determine pluripotent embryonic stem cell identity and review recent progress in our understanding of the transcriptional networks involved. See Review on p. 2311.

## REVIEW

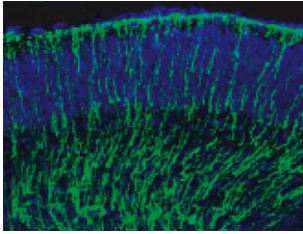
- 2311** The transcriptional foundation of pluripotency  
Chambers, I. and Tomlinson, S. R.

## RESEARCH REPORTS

- 2323** Suppression of the immune response potentiates tadpole tail regeneration during the refractory period  
Fukazawa, T., Naora, Y., Kunieda, T. and Kubo, T.
- 2329** *Cux2* functions downstream of Notch signaling to regulate dorsal interneuron formation in the spinal cord  
Iulianella, A., Sharma, M., Vanden Heuvel, G. B. and Trainor, P. A.

## RESEARCH ARTICLES

- 2335** *Sns* and *Kirre*, the *Drosophila* orthologs of Neph1 and Neph3, direct adhesion, fusion and formation of a slit diaphragm-like structure in insect nephrocytes  
Zhuang, S., Shao, H., Guo, F., Trimble, R., Pearce, E. and Abmayr, S. M.
- 2345** The Ecdysone receptor controls the post-critical weight switch to nutrition-independent differentiation in *Drosophila* wing imaginal discs  
Mirth, C. K., Truman, J. W. and Riddiford, L. M.
- 2355** Essential role of the TRIC-B channel in Ca<sup>2+</sup> handling of alveolar epithelial cells and in perinatal lung maturation  
Yamazaki, D., Komazaki, S., Nakanishi, H., Mishima, A., Nishi, M., Yazawa, M., Yamazaki, T., Taguchi, R. and Takeshima, H.
- 2363** Identification of *Dlk1*, *Ptpu* and *Klh1* as novel Nurr1 target genes in mesodiencephalic dopamine neurons  
Jacobs, F. M. J., van der Linden, A. J. A., Wang, Y., von Oerthel, L., Sul, H. S., Burbach, J. P. H. and Smidt, M. P.
- 2375** Rho-regulated Myosin phosphatase establishes the level of protrusive activity required for cell movements during zebrafish gastrulation  
Weiser, D. C., Row, R. H. and Kimelman, D.
- 2385** *Sox7* and *Sox17* are strain-specific modifiers of the lymphangiogenic defects caused by *Sox18* dysfunction in mice  
Hosking, B., François, M., Wilhelm, D., Orsenigo, F., Caprini, A., Svingen, T., Tutt, D., Davidson, T., Browne, C., Dejana, E. and Koopman, P.
- 2393** Differential and overlapping functions of two closely related *Drosophila* FGF8-like growth factors in mesoderm development  
Klingseisen, A., Clark, I. B. N., Gryzik, T. and Müller, H.-A. J.
- 2403** Cell rearrangements, cell divisions and cell death in a migrating epithelial sheet in the abdomen of *Drosophila*  
Bischoff, M. and Cseresnyés, Z.
- 2413** The RNA-binding protein Mex3b has a fine-tuning system for mRNA regulation in early *Xenopus* development  
Takada, H., Kawana, T., Ito, Y., Kikuno, R. F., Mamada, H., Araki, T., Koga, H., Asashima, M. and Taira, M.
- 2423** *LATERAL ORGAN FUSION1* and *LATERAL ORGAN FUSION2* function in lateral organ separation and axillary meristem formation in *Arabidopsis*  
Lee, D.-K., Geisler, M. and Springer, P. S.



Coronal section of an embryonic day 15.5 mouse cortex, one day after in utero electroporation with a yellow fluorescent protein (YFP)-expressing vector, with immunolabelled YFP (green) and bisbenzamide-stained nuclei (blue), from a study that supports a role for ephrin B1-initiated EphA4 forward signalling in the regulation of cortical cell division. See **Research article on p. 2467.**

- 2433** Regulation of stem cell maintenance by the Polycomb protein FIE has been conserved during land plant evolution  
**Mosquna, A., Katz, A., Decker, E. L., Rensing, S. A., Reski, R. and Ohad, N.**
- 2445** *C. elegans* Rab GTPase activating protein TBC-2 promotes cell corpse degradation by regulating the small GTPase RAB-5  
**Li, W., Zou, W., Zhao, D., Yan, J., Zhu, Z., Lu, J. and Wang, X.**
- 2457** FGF signaling is strictly required to maintain early telencephalic precursor cell survival  
**Paek, H., Gutin, G. and Hébert, J. M.**
- 2467** Promotion of proliferation in the developing cerebral cortex by EphA4 forward signaling  
**North, H. A., Zhao, X., Kolk, S. M., Clifford, M. A., Ziskind, D. M. and Donoghue, M. J.**
- 2477** Insm1 (IA-1) is an essential component of the regulatory network that specifies monoaminergic neuronal phenotypes in the vertebrate hindbrain  
**Jacob, J., Storm, R., Castro, D. S., Milton, C., Pla, P., Guillemot, F., Birchmeier, C. and Briscoe, J.**