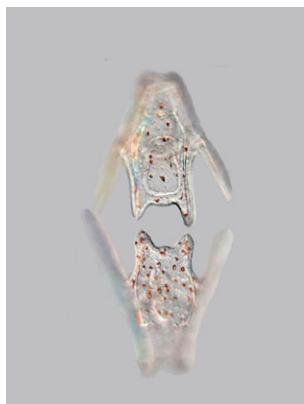


Development



Cover: Unlike the lower sea urchin embryo (FoxA knockdown), the upper control embryo has a mouth, a normal number of pigment cells and a complete gut. The FoxA transcription factor in the sea urchin is necessary for mouth formation, endoderm repression of mesoderm and, later, for gut specification. See article by Oliveri et al. on p. 4173.



Cilia have crucial roles in cell signalling and cellular homeostasis, and, as such, their functions can profoundly affect developmental patterning and organ physiology. As reviewed by Brent Bisgrove and Joseph Yost, studies of cilia dysfunction in human disease and vertebrate development are yielding new insights into the molecular pathways that intersect with cilia function and formation. See review on p. 4131.

REVIEW

- 4131 The roles of cilia in developmental disorders and disease
Bisgrove, B. W. and Yost, H. J.

RESEARCH REPORT

- 4145 Odd-skipped genes specify the signaling center that triggers retinogenesis in *Drosophila*
Bras-Pereira, C., Bessa, J. and Casares, F.

RESEARCH ARTICLES

- 4151 COUP-TFI is required for the formation of commissural projections in the forebrain by regulating axonal growth
Armentano, M., Filosa, A., Andolfi, G. and Studer, M.
- 4163 Chromatin assembly factor CAF-1 is required for cellular differentiation during plant development
Exner, V., Taranto, P., Schönrock, N., Gruisse, W. and Hennig, L.
- 4173 Repression of mesodermal fate by *foxa*, a key endoderm regulator of the sea urchin embryo
Oliveri, P., Walton, K. D., Davidson, E. H. and McClay, D. R.
- 4183 The allantois and chorion, when isolated before circulation or chorio-allantoic fusion, have hematopoietic potential
Zeigler, B. M., Sugiyama, D., Chen, M., Guo, Y., Downs, K. M. and Speck, N. A.
- 4193 Pax2/5/8 proteins promote cell survival in *C. elegans*
Park, D. H., Jia, H., Rajakumar, V. and Chamberlin, H. M.
- 4203 Epigenetic dynamics of the *Kcnq1* imprinted domain in the early embryo
Lewis, A., Green, K., Dawson, C., Redrup, L., Huynh, K. D., Lee, J. T., Hemberger, M. and Reik, W.
- 4211 *Arabidopsis microRNA167* controls patterns of *ARF6* and *ARF8* expression, and regulates both female and male reproduction
Wu, M.-F., Tian, Q. and Reed, J. W.
- 4219 Profilin is an effector for Daam1 in non-canonical Wnt signaling and is required for vertebrate gastrulation
Sato, A., Khadka, D. K., Liu, W., Bharti, R., Runnels, L. W., Dawid, I. B. and Habas, R.
- 4233 Suppression of C/EBP α expression in periportal hepatoblasts may stimulate biliary cell differentiation through increased *Hnf6* and *Hnf1b* expression
Yamasaki, H., Sada, A., Iwata, T., Niwa, T., Tomizawa, M., Xanthopoulos, K. G., Koike, T. and Shiojiri, N.
- 4245 Myocardin is a direct transcriptional target of Mef2, Tead and Foxo proteins during cardiovascular development
Creemers, E. E., Sutherland, L. B., McAnally, J., Richardson, J. A. and Olson, E. N.
- 4257 Compartmentalisation of Rho regulators directs cell invagination during tissue morphogenesis
Simões, S., Denholm, B., Azevedo, D., Sotillo, S., Martin, P., Skaer, H., Hombría, J. C.-G. and Jacinto, A.
- 4269 Cholangiocyte marker-positive and -negative fetal liver cells differ significantly in their ability to regenerate the livers of adult rats exposed to retrorsine
Simper-Ronan, R., Brilliant, K., Flanagan, D., Carreiro, M., Callanan, H., Sabo, E. and Hixson, D. C.



pMIR167a::GUS expression in a stage 13 *Arabidopsis* flower. Wu et al. report in this study that the microRNA miR167 has an essential gene expression patterning function during *Arabidopsis* reproductive development that contrasts with miRNA function in animals, where miRNAs usually function to maintain established expression patterns. See article on p. 4211.

- 4281** The puromycin-sensitive aminopeptidase PAM-1 is required for meiotic exit and anteroposterior polarity in the one-cell *Caenorhabditis elegans* embryo
Lyczak, R., Zweier, L., Group, T., Murrow, M. A., Snyder, C., Kulovitz, L., Beatty, A., Smith, K. and Bowerman, B.
- 4293** *her5* expression reveals a pool of neural stem cells in the adult zebrafish midbrain
Chapouton, P., Adolf, B., Leucht, C., Tannhäuser, B., Ryu, S., Driever, W. and Bally-Cuif, L.
- 4305** *LONGIFOLIA1* and *LONGIFOLIA2*, two homologous genes, regulate longitudinal cell elongation in *Arabidopsis*
Lee, Y. K., Kim, G.-T., Kim, I.-J., Park, J., Kwak, S.-S., Choi, G. and Chung, W.-I.
- 4315** Segment-specific requirements for dorsoventral patterning genes during early brain development in *Drosophila*
Urbach, R., Volland, D., Seibert, J. and Technau, G. M.
- 4331** The columnar gene *vnd* is required for tritocerebral neuromere formation during embryonic brain development of *Drosophila*
Sprecher, S. G., Urbach, R., Technau, G. M., Rijli, F. M., Reichert, H. and Hirth, F.
- 4341** Nemo-like kinase (NLK) acts downstream of Notch/Delta signalling to downregulate TCF during mesoderm induction in the sea urchin embryo
Röttinger, E., Croce, J., Lhomond, G., Besnard, L., Gache, C. and Lepage, T.
- 4355** Phosphorylation of IP₃R1 and the regulation of [Ca²⁺]_i responses at fertilization: a role for the MAP kinase pathway
Lee, B., Vermassen, E., Yoon, S.-Y., Vanderheyden, V., Ito, J., Alfandari, D., De Smedt, H., Parys, J. B. and Fissore, R. A.
- 4367** Generation of GABAergic and dopaminergic interneurons from endogenous embryonic olfactory bulb precursor cells
Vergaño-Vera, E., Yusta-Boyo, M. J., de Castro, F., Bernad, A., de Pablo, F. and Vicario-Abejón, C.
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- 4381** Developmental patterning of the cardiac atrioventricular canal by Notch and Hairy-related transcription factors
Rutenberg, J. B., Fischer, A., Jia, H., Gessler, M., Zhong, T. P. and Mercola, M.
- 4391** Erratum