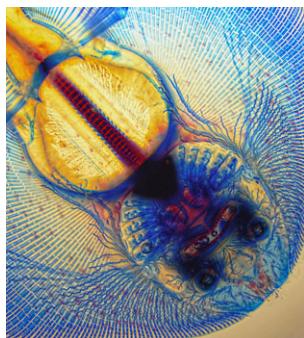
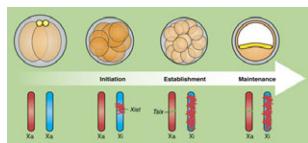


Development



Cover: Ventral surface of the skate *Raja* prepared by Alcian Blue and Alizarin Red staining for cartilage and bone, respectively. Note the additional staining of the ampullary canals surrounding the face. This image, taken by David Gold, Lynn Kee and Meghan Morrissey at the 2011 Woods Hole MBL Embryology Course, was chosen by readers of the Node (<http://thenode.biologists.com/>).



Barakat and Gribnau review new insights into the molecular events occurring during the life cycle of X chromosome inactivation and, in the accompanying poster, provide an overview of the mechanisms regulating X inactivation and reactivation. See the Development at a Glance poster article on p. 2085.

DEVELOPMENT AT A GLANCE

- 2085** X chromosome inactivation in the cycle of life
Barakat, T. S. and Gribnau, J.

PRIMER

- 2091** Evolutionary crossroads in developmental biology: cyclostomes (lamprey and hagfish)
Shimeld, S. M. and Donoghue, P. C. J.

DEVELOPMENT AND STEM CELLS

- 2101** *Drosophila* primordial germ cell migration requires epithelial remodeling of the endoderm
Seifert, J. R. K. and Lehmann, R.
- 2107** Temporal control of neural crest lineage generation by Wnt/β-catenin signaling
Hari, L., Miescher, I., Shakhova, O., Suter, U., Chin, L., Taketo, M., Richardson, W. D., Kessaris, N. and Sommer, L.
- 2118** Function of Wnt/β-catenin in counteracting Tcf3 repression through the Tcf3–β-catenin interaction
Wu, C.-I., Hoffman, J. A., Shy, B. R., Ford, E. M., Fuchs, E., Nguyen, H. and Merrill, B. J.
- 2130** Failure of extra-embryonic progenitor maintenance in the absence of dosage compensation
Mugford, J. W., Yee, D. and Magnuson, T.
- 2139** The bHLH transcription factor Tcf21 is required for lineage-specific EMT of cardiac fibroblast progenitors
Acharya, A., Baek, S. T., Huang, G., Eskiocak, B., Goetsch, S., Sung, C. Y., Banfi, S., Sauer, M. F., Olsen, G. S., Duffield, J. S., Olson, E. N. and Tallquist, M. D.

RESEARCH REPORTS

- 2150** Cellular retinoic acid-binding proteins are essential for hindbrain patterning and signal robustness in zebrafish
Cai, A. Q., Radtke, K., Linville, A., Lander, A. D., Nie, Q. and Schilling, T. F.
- 2156** Retinoic acid-driven *Hox1* is required in the epidermis for forming the otic/atrial placodes during ascidian metamorphosis
Sasakura, Y., Kanda, M., Ikeda, T., Horie, T., Kawai, N., Ogura, Y., Yoshida, R., Hozumi, A., Satoh, N. and Fujiwara, S.

RESEARCH ARTICLES

- 2161** RBE controls microRNA164 expression to effect floral organogenesis
Huang, T., López-Giráldez, F., Townsend, J. P. and Irish, V. F.
- 2170** Crossveinless d is a vitellogenin-like lipoprotein that binds BMPs and HSPGs, and is required for normal BMP signaling in the *Drosophila* wing
Chen, J., Honeyager, S. M., Schleede, J., Avanesov, A., Laughon, A. and Blair, S. S.
- 2177** Dauer larva quiescence alters the circuitry of microRNA pathways regulating cell fate progression in *C. elegans*
Karp, X. and Ambros, V.
- 2187** Cytoskeletal changes in actin and microtubules underlie the developing surface mechanical properties of sensory and supporting cells in the mouse cochlea
Szarama, K. B., Gavara, N., Petralia, R. S., Kelley, M. W. and Chadwick, R. S.

- 2198** Spatially distinct regulatory roles for gibberellins in the promotion of flowering of *Arabidopsis* under long photoperiods
Porri, A., Torti, S., Romera-Branchat, M. and Coupland, G.
- 2210** The Polycomb group protein Ring1b is essential for pectoral fin development
van der Velden, Y. U., Wang, L., van Lohuizen, M. and Haramis, A.-P. G.
- 2221** Inositol polyphosphate 5-phosphatase-controlled $\text{Ins}(1,4,5)\text{P}_3/\text{Ca}^{2+}$ is crucial for maintaining pollen dormancy and regulating early germination of pollen
Wang, Y., Chu, Y.-J. and Xue, H.-W.
- 2234** UNC-4 antagonizes Wnt signaling to regulate synaptic choice in the *C. elegans* motor circuit
Schneider, J., Skelton, R. L., Von Stetina, S. E., Middelkoop, T. C., van Oudenaarden, A., Korswagen, H. C. and Miller, D. M., III
- 2246** Chemokine and Fgf signalling act as opposing guidance cues in formation of the lateral line primordium
Breau, M. A., Wilson, D., Wilkinson, D. G. and Xu, Q.