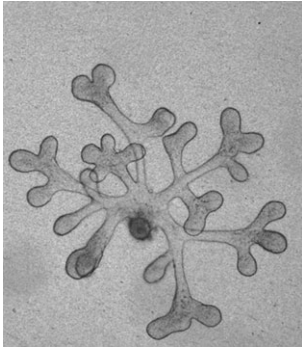
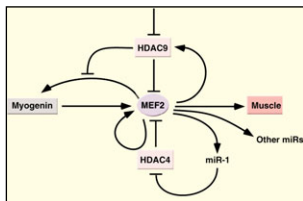


Development



Cover: An embryonic mouse salivary epithelium cultured in laminin-111 with FGF10 (a sub-optimal dose for growth) and recombinant, active heparanase. The heparanase cleaves heparan sulfate and increases FGF10 bioactivity resulting in increased lateral branching, end-bud clefting and duct elongation. See research article by Patel et al. on p. 4177.



In this issue, Matthew Potthoff and Eric Olson review the myriad roles that the transcription factor MEF2 plays in development and discuss how it transmits extracellular signals to the genome to activate the differentiation, proliferation, morphogenesis, survival and apoptosis of numerous cell types. See review on p. 4131.

REVIEW

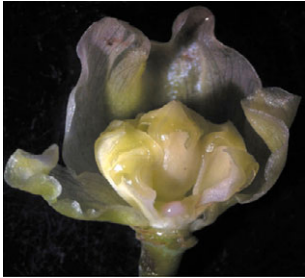
- 4131** MEF2: a central regulator of diverse developmental programs
Potthoff, M. J. and Olson, E. N.

RESEARCH REPORT

- 4141** Delamination of cells from neurogenic placodes does not involve an epithelial-to-mesenchymal transition
Graham, A., Blentic, A., Duque, S. and Begbie, J.

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- 4147** Definitive hematopoiesis initiates through a committed erythromyeloid progenitor in the zebrafish embryo
Bertrand, J. Y., Kim, A. D., Violette, E. P., Stachura, D. L., Cisson, J. L. and Traver, D.
- 4157** Functional analyses of genetic pathways controlling petal specification in poppy
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- 4167** Synaptic differentiation is defective in mice lacking acetylcholine receptor β -subunit tyrosine phosphorylation
Friese, M. B., Blagden, C. S. and Burden, S. J.
- 4177** Heparanase cleavage of perlecan heparan sulfate modulates FGF10 activity during ex vivo submandibular gland branching morphogenesis
Patel, V. N., Knox, S. M., Likar, K. M., Lathrop, C. A., Hossain, R., Eftekhari, S., Whitelock, J. M., Elkin, M., Vlodaysky, I. and Hoffman, M. P.
- 4187** Divergent functions of two ancient *Hydra Brachyury* paralogues suggest specific roles for their C-terminal domains in tissue fate induction
Bielen, H., Oberleitner, S., Marcellini, S., Gee, L., Lemaire, P., Bode, H. R., Rupp, R. and Technau, U.
- 4199** PITX2 controls asymmetric gonadal development in both sexes of the chick and can rescue the degeneration of the right ovary
Guioli, S. and Lovell-Badge, R.
- 4209** Nuclear accumulation of Smad complexes occurs only after the midblastula transition in *Xenopus*
Saka, Y., Hagemann, A. I., Piepenburg, O. and Smith, J. C.
- 4219** Stochastic patterning in the mouse pre-implantation embryo
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- 4233** Nucleocytoplasmic shuttling mediates the dynamic maintenance of nuclear Dorsal levels during *Drosophila* embryogenesis
DeLotto, R., DeLotto, Y., Steward, R. and Lippincott-Schwartz, J.
- 4243** Senseless functions as a molecular switch for color photoreceptor differentiation in *Drosophila*
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- 4255** Kremen is required for neural crest induction in *Xenopus* and promotes LRP6-mediated Wnt signaling
Hassler, C., Cruciat, C.-M., Huang, Y.-L., Kuriyama, S., Mayor, R. and Niehrs, C.
- 4265** Argonaute 1 regulates the fate of germline stem cells in *Drosophila*
Yang, L., Chen, D., Duan, R., Xia, L., Wang, J., Qurashi, A., Jin, P. and Chen, D.
- 4273** A wave of EGFR signaling determines cell alignment and intercalation in the *Drosophila* tracheal placode
Nishimura, M., Inoue, Y. and Hayashi, S.



A viral-induced gene silencing (vigs)PI-D poppy flower showing strong homeotic transformations of petals and stamens. The *AP3* lineage, this study reports, has undergone both gene duplication and sub-functionalization in the poppy, providing insights into how the petal developmental program evolved. **See research article on p. 4157.**

- 4283** Granulosa cells regulate oocyte intracellular pH against acidosis in preantral follicles by multiple mechanisms
FitzHarris, G., Siyanov, V. and Baltz, J. M.
- 4297** PAR1 specifies ciliated cells in vertebrate ectoderm downstream of aPKC
Ossipova, O., Tabler, J., Green, J. B. A. and Sokol, S. Y.