

Research

Letters

- Epigenetics of human T cells during the G₀→G₁ transition 1325
Alexander E. Smith, Constantinos Chronis, Manolis Christodoulakis, Stephen J. Orr, Nicholas C. Lea, Natalie A. Twine, Akshay Bhinge, Ghulam J. Mufti, and N. Shaun B. Thomas
- Endonuclease-sensitive regions of human spermatozoal chromatin are highly enriched in promoter and CTCF binding sequences 1338
Ali Arpanahi, Martin Brinkworth, David Iles, Stephen A. Krawetz, Agnieszka Paradowska, Adrian E. Platts, Myriam Saida, Klaus Steger, Philip Tedder, and David Miller
- Does the human X contain a third evolutionary block? Origin of genes on human Xp11 and Xq28 1350^{OA}
Margaret L. Delbridge, Hardip R. Patel, Paul D. Waters, Daniel A. McMillan, and Jennifer A. Marshall Graves
- High-resolution analysis of epigenetic changes associated with X inactivation 1361
Hendrik Marks, Jennifer C. Chow, Sergei Denissov, Kees-Jan Françojs, Neil Brockdorff, Edith Heard, and Hendrik G. Stunnenberg
- Epigenetic profiling at mouse imprinted gene clusters reveals novel epigenetic and genetic features at differentially methylated regions 1374
Scott V. Dindot, Richard Person, Mark Strivens, Rejinaldo Garcia, and Arthur L. Beaudet
- Tracking the past: Interspersed repeats in an extinct Afrotherian mammal, *Mammuthus primigenius* 1384
Fangqing Zhao, Ji Qi, and Stephan C. Schuster
- Domain shuffling and the evolution of vertebrates 1393
Takeshi Kawashima, Shuichi Kawashima, Chisaki Tanaka, Miho Murai, Masahiko Yoneda, Nicholas H. Putnam, Daniel S. Rokhsar, Minoru Kanehisa, Nori Satoh, and Hiroshi Wada

(continued)

Evolution of gene function and regulatory control after whole-genome duplication: Comparative analyses in vertebrates	1404
Karin S. Kassahn, Vinh T. Dang, Simon J. Wilkins, Andrew C. Perkins, and Mark A. Ragan	
Epigenetic silencing of transposable elements: A trade-off between reduced transposition and deleterious effects on neighboring gene expression	1419
Jesse D. Hollister and Brandon S. Gaut	
Clusters and superclusters of phased small RNAs in the developing inflorescence of rice	1429
Cameron Johnson, Anna Kasprzewska, Kristin Tennessen, John Fernandes, Guo-Ling Nan, Virginia Walbot, Venkatesan Sundaresan, Vicki Vance, and Lewis H. Bowman	
Horizontal gene transfer of an entire metabolic pathway between a eukaryotic alga and its DNA virus	1441
Adam Monier, António Pagarete, Colombar de Vargas, Michael J. Allen, Betsy Read, Jean-Michel Claverie, and Hiroyuki Ogata	
The consequences of genetic drift for bacterial genome complexity	1450
Chih-Horng Kuo, Nancy A. Moran, and Howard Ochman	
Methods and Resources	
<i>Methods</i>	
MS-qFRET: A quantum dot-based method for analysis of DNA methylation	1455
Vasudev J. Bailey, Hariharan Easwaran, Yi Zhang, Elizabeth Griffiths, Steven A. Belinsky, James G. Herman, Stephen B. Baylin, Hetty E. Carraway, and Tza-Huei Wang	
Genome-wide screen of promoter methylation identifies novel markers in melanoma	1462
Yasuo Koga, Mattia Pelizzola, Elaine Cheng, Michael Krauthammer, Mario Sznol, Stephan Ariyan, Deepak Narayan, Annette M. Molinaro, Ruth Halaban, and Sherman M. Weissman	
Transcriptional and post-transcriptional profile of human chromosome 21	1471
Sergey I. Nikolaev, Samuel Deutsch, Raphael Genolet, Christelle Borel, Leila Parand, Catherine Ucla, Frederic Schütz, Genevieve Duriaux Sail, Yann Dupré, Pascale Jaquier-Gubler, Tanguy Araud, Beatrice Conne, Patrick Descombes, Jean-Dominique Vassalli, Joseph Curran, and Stylianos E. Antonarakis	

(continued)

Resources

Automated identification of conserved synteny after whole-genome duplication

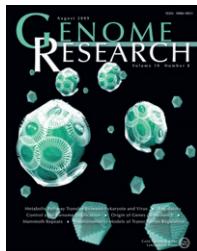
1497

Julian M. Catchen, John S. Conery, and John H. Postlethwait

Erratum

1506

^{OA}Open Access paper.



Cover Horizontal gene transfer is one of the major evolutionary processes in phage-bacteria systems, but its occurrence in eukaryotes has been less documented. In this issue, a clear case of gene transfer was identified between the cosmopolitan marine eukaryote *Emiliania huxleyi*, known for its beautiful exoskeletons made of calcium carbonate scales ("coccoliths"), and an icosahedral giant virus that lytically kills this microalga. The gene transfer involved not only one gene, but a series of genes coding for key enzymes of almost the entire sphingolipid/ceramide biosynthesis pathway. (Cover illustration by Miguel Frada and Glynn Gorick. [For details, see Monier et al., pp. 1441–1449.])