

Research

- SORBS2** transcription is activated by telomere position effect—over long distance upon telomere shortening in muscle cells from patients with facioscapulohumeral dystrophy 1781
Jérôme D. Robin, Andrew T. Ludlow, Kimberly Batten, Marie-Cécile Gaillard, Guido Stadler, Frédérique Magdinier, Woodring E. Wright, and Jerry W. Shay
- Promoter-distal RNA polymerase II binding discriminates active from inactive CCAAT/enhancer-binding protein beta binding sites 1791
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- Bacterial infection remodels the DNA methylation landscape of human dendritic cells 1801
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- CAGE profiling of ncRNAs in hepatocellular carcinoma reveals widespread activation of retroviral LTR promoters in virus-induced tumors 1812^{OA}
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- Prepatterning of differentiation-driven nuclear lamin A/C-associated chromatin domains by GlcNAcylated histone H2B 1825
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- Ribosome profiling reveals an important role for translational control in circadian gene expression 1836
Christopher Jang, Nicholas F. Lahens, John B. Hogenesch, and Amita Sehgal
- Ribosome profiling reveals the rhythmic liver translome and circadian clock regulation by upstream open reading frames 1848^{OA}
Peggy Janich, Alaaddin Bulak Arpat, Violeta Castelo-Szekely, Maykel Lopes, and David Gatfield
- Single-cell RNA-seq reveals changes in cell cycle and differentiation programs upon aging of hematopoietic stem cells 1860
Monika S. Kowalczyk, Itay Tirosh, Dirk Heckl, Tata Nageswara Rao, Atray Dixit, Brian J. Haas, Rebekka K. Schneider, Amy J. Wagers, Benjamin L. Ebert, and Aviv Regev

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The chromatin environment shapes DNA replication origin organization and defines origin classes 1873
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Replication timing is regulated by the number of MCMs loaded at origins 1886
Shankar P. Das, Tyler Borrmann, Victor W.T. Liu, Scott C.-H. Yang, John Bechhoefer, and Nicholas Rhind

Noise in gene expression is coupled to growth rate 1893
Leeat Keren, David van Dijk, Shira Weingarten-Gabbay, Dan Davidi, Ghil Jona, Adina Weinberger, Ron Milo, and Eran Segal

Methods

A probabilistic method for testing and estimating selection differences between populations 1903
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Enhanced virome sequencing using targeted sequence capture 1910^{OA}
Todd N. Wylie, Kristine M. Wylie, Brandi N. Herter, and Gregory A. Storch

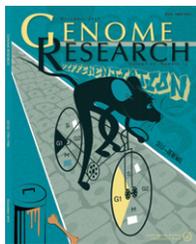
Resource

The genome of the vervet (*Chlorocebus aethiops sabaesus*) 1921
Wesley C. Warren, Anna J. Jasinska, Raquel García-Pérez, Hannes Svandal, Chad Tomlinson, Mariano Rocchi, Nicoletta Archidiacono, Oronzo Capozzi, Patrick Minx, Michael J. Montague, Kim Kyung, LaDeana W. Hillier, Milinn Kremitzki, Tina Graves, Colby Chiang, Jennifer Hughes, Nam Tran, Yu Huang, Vasily Ramensky, Oi-wa Choi, Yoon J. Jung, Christopher A. Schmitt, Nikoleta Juretic, Jessica Wasserscheid, Trudy R. Turner, Roger W. Wiseman, Jennifer J. Tuscher, Julie A. Karl, Jörn E. Schmitz, Roland Zahn, David H. O'Connor, Eugene Redmond, Alex Nisbett, Béatrice Jacquelin, Michaela C. Müller-Trutwin, Jason M. Brenchley, Michel Dione, Martin Antonio, Gary P. Schroth, Jay R. Kaplan, Matthew J. Jorgensen, Gregg W.C. Thomas, Matthew W. Hahn, Brian J. Raney, Bronwen Aken, Rishi Nag, Juergen Schmitz, Gennady Churakov, Angela Noll, Roscoe Stanyon, David Webb, Françoise Thibaud-Nissen, Magnus Nordborg, Tomas Marques-Bonet, Ken Dewar, George M. Weinstock, Richard K. Wilson, and Nelson B. Freimer

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Cover The cell cycle, G1 phase specifically, is a sensitive period during which cell fate decisions are made. In this issue, a study describes in-depth analysis of single-cell RNA-seq profiles of young and old mouse hematopoietic stem and progenitor cells, which revealed age-dependent differences in cell cycle and differentiation signatures. The cover depicts a mouse riding a bicycle on a single-cell path, where each wheel represents a type of cell cycle and its possible outcome. A cell cycle with a short G1 phase (black) is associated with a self-renewal-biased transcriptional signature, whereas a cell cycle with a long G1 phase (yellow) is associated with differentiation. Hematopoietic stem and progenitor cells are located in the bone marrow, which is represented by the bone (lower left). (Cover illustration by Anna Hupalowska, www.annahupalowska.com. [For details, see Kowalczyk et al., pp. 1860–1872.]