

NEWS

In This Issue

1042

- Cellular self-eating promotes pancreatitis
- Alzheimer's protein controls calcium's ins and outs
- How cells make local calls
- Mitochondrial DNA stays home
- Daughter cells share duties

M. Leslie

People & Ideas

1044

- Paul Mischel: All about brains

R. Williams

RESEARCH ARTICLES

Reports

1047

Both daughter cells traffic and exocytose membrane at the cleavage furrow during mammalian cytokinesis

John W. Goss and Derek K. Toomre

1055

Loss of miRNA biogenesis induces p19^{Arf}-p53 signaling and senescence in primary cells

Rajini Mudhasani, Zhiqing Zhu, Gyorgy Hutvagner, Christine M. Eischen, Stephen Lyle, Lisa L. Hall, Jeanne B. Lawrence, Anthony N. Imbalzano, and Stephen N. Jones

1065

Involvement of autophagy in trypsinogen activation within the pancreatic acinar cells

Daisuke Hashimoto, Masaki Ohmuraya, Masahiko Hirota, Akitsugu Yamamoto, Koichi Suyama, Satoshi Ida, Yuushi Okumura, Etsuhisa Takahashi, Hiroshi Kido, Kimi Araki, Hideo Baba, Noboru Mizushima, and Ken-ichi Yamamura

1073

Cleavage of the signaling mucin Msb2 by the aspartyl protease Yps1 is required for MAPK activation in yeast

Nadia Vadaie, Heather Dionne, Darowan S. Akajagbor, Seth R. Nickerson, Damian J. Krysan, and Paul J. Cullen

Articles

1083

Mph1p promotes gross chromosomal rearrangement through partial inhibition of homologous recombination

Soma Banerjee, Stephanie Smith, Ji-Hyun Oum, Hungjiun Liaw, Ji-Young Hwang, Nilabja Sikdar, Akira Motegi, Sang Eun Lee, and Kyungjae Myung

1095

Role of Sec61p in the ER-associated degradation of short-lived transmembrane proteins

Daniel C. Scott and Randy Schekman

1107

SERCA pump activity is physiologically regulated by presenilin and regulates amyloid β production

Kim N. Green, Angelo Demuro, Yama Akbari, Brian D. Hitt, Ian F. Smith, Ian Parker, and Frank M. LaFerla

1117

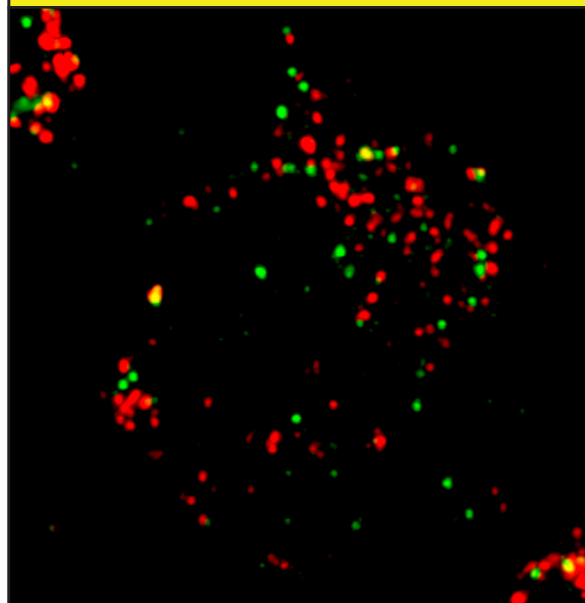
Mitochondrial nucleoids maintain genetic autonomy but allow for functional complementation

Robert W. Gilkerson, Eric A. Schon, Evelyn Hernandez, and Mercy M. Davidson

1129

Regulation of ROS signal transduction by NADPH oxidase 4 localization

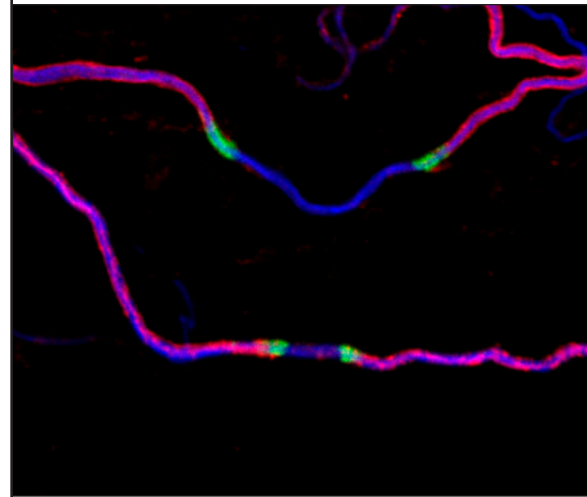
Kai Chen, Michael T. Kirber, Hui Xiao, Yu Yang, and John F. Keaney Jr.



On the cover

Mitochondrial nucleoids (red and green signals) do not share their DNA molecules, as shown by the rare sight of yellow signals (when red and green mix). See page 1117.

- 1141** Chibby cooperates with 14-3-3 to regulate β -catenin subcellular distribution and signaling activity
Feng-Qian Li, Adaobi Mofunanya, Kimberley Harris, and Ken-Ichi Takemaru
- 1155** Rho-GTPase-dependent filamentous actin dynamics coordinate vesicle targeting and exocytosis during tip growth
Yong Jik Lee, Amy Szumlanski, Erik Nielsen, and Zhenbiao Yang
- 1169** Glial and neuronal isoforms of Neurofascin have distinct roles in the assembly of nodes of Ranvier in the central nervous system
Barbara Zonta, Steven Tait, Shona Melrose, Heather Anderson, Sheila Harroch, Jennifer Higginson, Diane L. Sherman, and Peter J. Brophy
- 1179** Nicotinic acetylcholine receptor is internalized via a Rac-dependent, dynamin-independent endocytic pathway
Sudha Kumari, Virginia Borroni, Ashutosh Chaudhry, Baron Chanda, Ramiro Massol, Satyajit Mayor, and Francisco J. Barrantes
- 1195** ERK5 promotes Src-induced podosome formation by limiting Rho activation
Mark Schramp, Olivia Ying, Tai Young Kim, and G. Steven Martin
- 1211** Mechanisms and consequences of agonist-induced talin recruitment to platelet integrin α IIb β 3
Naohide Watanabe, Laurent Bodin, Manjula Pandey, Matthias Krause, Shaun Coughlin, Vassiliki A. Boussiotis, Mark H. Ginsberg, and Sanford J. Shattil



The axioglial complex (green) promotes lateral migration of myelinating oligodendrocyte processes (red) along the neuronal axons (blue), until they meet to flank the nodes of Ranvier.

See page 1169.