

VOL. 202, NO. 1, JULY 8, 2013

β-Catenin
Leads the Resistance
Vacuoles
Make Stable Domains
Augmin Helps the
Spindle Branch Out

SSX2IP Promotes
Centrosome Maturation

## NEWS

In This Issue

- Catching augmin in the act
- β-Catenin solidifies tight junctions in the skin
- SSX2IP helps the centrosome grow up

In Focus

A lifeline for lipid rafts?

People & Ideas

Didier Stainier: How function follows form

### REVIEWS

Comments

MoniTORing neuronal excitability at the synapse Inge Kepert and Michael A. Kiebler

Probing the depths of cellular senescence Darren J. Baker and John M. Sedivy

Reviews

15

Big steps toward understanding dynein

# RESEARCH ARTICLES

Reports

25

Augmin-dependent microtubule nucleation at microtubule walls in the spindle

Tomoko Kamasaki, Eileen O'Toole, Shigeo Kita, Masako Osumi, Jiro Usukura, J. Richard McIntosh, and Gohta Goshima

35

Direct imaging reveals stable, micrometer-scale lipid domains that segregate proteins in live cells

Alexandre Toulmay and William A. Prinz

45

β-Catenin protects the epidermis from mechanical stresses Samriddha Ray, Henry P. Foote, and Terry Lechler

#### Articles

53

Degradation of high affinity HuD targets releases Kv1.1 mRNA from miR-129 repression by mTORC1

Natasha M. Sosanya, Peggy P.C. Huang, Luisa P. Cacheaux, Chun Jung Chen, Kathleen Nguyen, Nora I. Perrone-Bizzozero, and Kimberly F. Raab-Graham

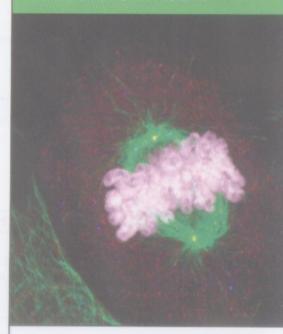
The STIM1 CTID domain determines access of SARAF to SOAR to regulate Orai1 channel function

> Archana Jha, Malini Ahuja, József Maléth, Claudia M. Moreno, Joseph P. Yuan, Min Seuk Kim, and Shmuel Muallem

Articles with related stories in the IN THIS ISSUE section have page numbers in RED; articles related to the IN FOCUS feature have page numbers in BLUE; articles with COMMENTS have page numbers in GREEN.



VOL. 202, NO. 1, JULY 8, 2013



# On the cover

Bärenz et al. demonstrate that the centriolar satellite protein SSX2IP promotes centrosome maturation. In contrast to the classic satellite marker PCM-1 (blue), SSX2IP (red) localizes to the spindle poles in mitotic cells. Spindle microtubules are shown in green and DNA in pink. Image @ 2013 Bärenz et al.

See page 81.

- The centriolar satellite protein SSX2IP promotes centrosome maturation Felix Bärenz, Daigo Inoue, Hideki Yokoyama, Justus Tegha-Dunghu, Stephanie Freiss, Stefanie Draeger, Dmytro Mayilo, Ivana Cado, Sabine Merker, Maren Klinger, Burkhard Hoeckendorf, Sahra Pilz, Kerstin Hupfeld, Herbert Steinbeisser, Holger Lorenz, Thomas Ruppert, Joachim Wittbrodt, and Oliver J. Gruss
- Mitotic phosphorylation of Exo84 disrupts exocyst assembly and arrests cell growth
  Guangzuo Luo, Jian Zhang, Francis C. Luca, and Wei Guo
- ARH directs megalin to the endocytic recycling compartment to regulate its proteolysis and gene expression

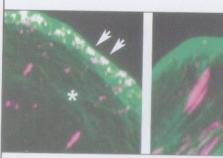
  Mehul Shah, Oscar Y. Baterina Jr., Vanessa Taupin, and Marilyn G. Farquhar
- Lysosome-mediated processing of chromatin in senescence
  Andre Ivanov, Jeff Pawlikawski, Indrani Manoharan, John van Tuyn,
  David M. Nelson, Taranjit Singh Rai, Parisha P. Shah, Graeme Hewitt,
  Viktor I. Korolchuk, Joao F. Passos, Hong Wu, Shelley L. Berger,
  and Peter D. Adams
- Local palmitoylation cycles define activity-regulated postsynaptic subdomains

  Yuko Fukata, Ariane Dimitrov, Gaelle Boncompain, Ole Vielemeyer, Franck Perez, and Masaki Fukata
- Vinculin–actin interaction couples actin retrograde flow to focal adhesions, but is dispensable for focal adhesion growth Ingo Thievessen, Peter M. Thompson, Sylvain Berlemont, Karen M. Plevock, Sergey V. Plotnikov, Alice Zemljic-Harpf, Robert S. Ross, Michael W. Davidson, Gaudenz Danuser, Sharon L. Campbell, and Clare M. Waterman

#### Corrections

Convergence of Notch and β-catenin signaling induces arterial fate in vascular progenitors

Kohei Yamamizu, Taichi Matsunaga, Hideki Uosaki, Hiroyuki Fukushima, Shiori Katayama, Mina Hirooka-Kanie, Kohnosuke Mitani, and Jun K. Yamashita



Thievessen et al. investigate how the actin-binding protein vinculin affects the dynamics of F-actin (green) and focal adhesions (magenta) at the leading edge of migrating cells. In comparison to a wild-type cell (left), a vinculin-knockout fibroblast (right) forms fewer nascent adhesions in the actin-rich lamellipodium at the cell edge (arrows/arrowhead) but grows larger adhesions further back in the cell's lamellum (asterisks). Image © 2013 Thievessen et al.