### **NEWS**

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- STIMulating Ca<sup>2+</sup> influx
- Cell cycle regulators kick out centrosomes
- Hidden particles
- Sizing up actin fences
- Stealing histones

N. LeBrasseur

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- Live long and cancer-free

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A hitchhiker's guide to survival finally makes CENs Harmit S. Malik

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Cell cycle regulators control centrosome elimination during oogenesis in Caenorhabditis elegans

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Luminal particles within cellular microtubules

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Wolfgang Baumeister, Jacques Dubochet, and Marek Cyrklaff

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Direct measurement of the lamellipodial protrusive force

in a migrating cell

Marcus Prass, Ken Jacobson, Alex Mogilner, and Manfred Radmacher

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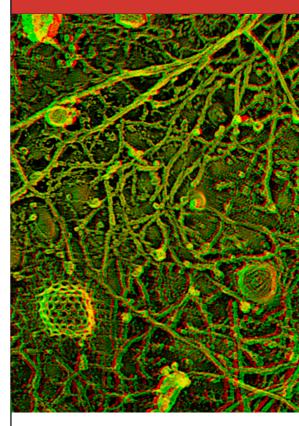
Specific and flexible roles of heparan sulfate modifications in *Drosophila* FGF signaling

Keisuke Kamimura, Takashi Koyama, Hiroko Habuchi, Ryu Ueda,

Masayuki Masu, Koji Kimata, and Hiroshi Nakato



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# On the cover

3D images reveal an actin meshwork just beneath the plasma membrane. A cell type's mesh size correlates with the diffusion range of its membrane molecules. (3D glasses provided on inside cover; left eye red.).

#### Articles

The centromere-specific histone variant Cse4p (CENP-A) is essential for functional chromatin architecture at the yeast 2-μm circle partitioning locus and promotes equal plasmid segregation Sujata Hajra, Santanu Kumar Ghosh, and Makkuni Jayaram

Mouse Emi2 is required to enter meiosis II by reestablishing cyclin B1 during interkinesis

Suzanne Madgwick, David V. Hansen, Mark Levasseur, Peter K. Jackson, and Keith T. Jones

Ca<sup>2+</sup> store depletion causes STIM1 to accumulate in ER regions closely associated with the plasma membrane

Minnie M. Wu, JoAnn Buchanan, Riina M. Luik, and Richard S. Lewis

The elementary unit of store-operated Ca<sup>2+</sup> entry: local activation of CRAC channels by STIM1 at ER-plasma membrane junctions Riina M. Luik, Minnie M. Wu, JoAnn Buchanan, and Richard S. Lewis

PKA-activated ApAF–ApC/EBP heterodimer is a key downstream effector of ApCREB and is necessary and sufficient for the consolidation of long-term facilitation

Jin-A Lee, Sue-Hyun Lee, Changhoon Lee, Deok-Jin Chang, Yong Lee, Hyoung Kim, Ye-Hwang Cheang, Hyoung-Gon Ko, Yong-Seok Lee, Heejung Jun, Dusan Bartsch, Eric R. Kandel, and Bong-Kiun Kaang

Tubulin tyrosination is a major factor affecting the recruitment of CAP-Gly proteins at microtubule plus ends

Leticia Peris, Manuel Thery, Julien Fauré, Yasmina Saoudi, Laurence Lafanechère, John K. Chilton, Phillip Gordon-Weeks, Niels Galjart, Michel Bornens, Linda Wordeman, Juergen Wehland, Annie Andrieux, and Didier Job

Three-dimensional reconstruction of the membrane skeleton at the plasma membrane interface by electron tomography

Nobuhîro Morone, Takahiro Fujiwara, Kotono Murase, Rinshi S. Kasai, Hiroshi Ike, Shigeki Yuasa, Jiro Usukura, and Akihiro Kusumi

Role of fascin in filopodial protrusion

Danijela Vignjevic, Shin-ichiro Kojima, Yvonne Aratyn, Oana Danciu, Tatyana Svitkina, and Gary G. Borisy

RLIP76 (RalBP1) is an R-Ras effector that mediates adhesion-dependent Rac activation and cell migration

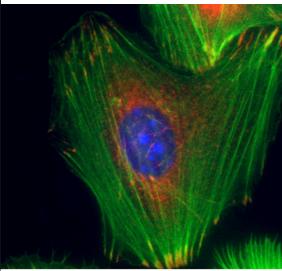
Lawrence E. Goldfinger, Celeste Ptak, Erin D. Jeffery, Jeffrey Shabanowitz, Donald F. Hunt, and Mark H. Ginsberg

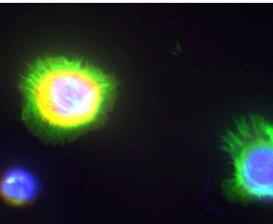
**889** Genetic analysis of β1 integrin "activation motifs" in mice

Aleksandra Czuchra, Hannelore Meyer, Kyle R. Legate, Cord Brakebusch, and Reinhard Fässler

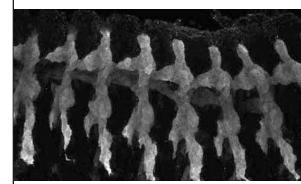
**901** Correction

**903** Correction





Adhesion and spreading are defective in cells with mutations in the NPXY motif of the  $\beta1$  integrin tail (bottom). See page 889.



Overall heparan sulfate levels are more important than their defined structures for FGF signaling in tracheal development, as shown by the normal trachea of mice lacking heparan sulfate 6-O sulfotransferase. See page 773.