

JCB

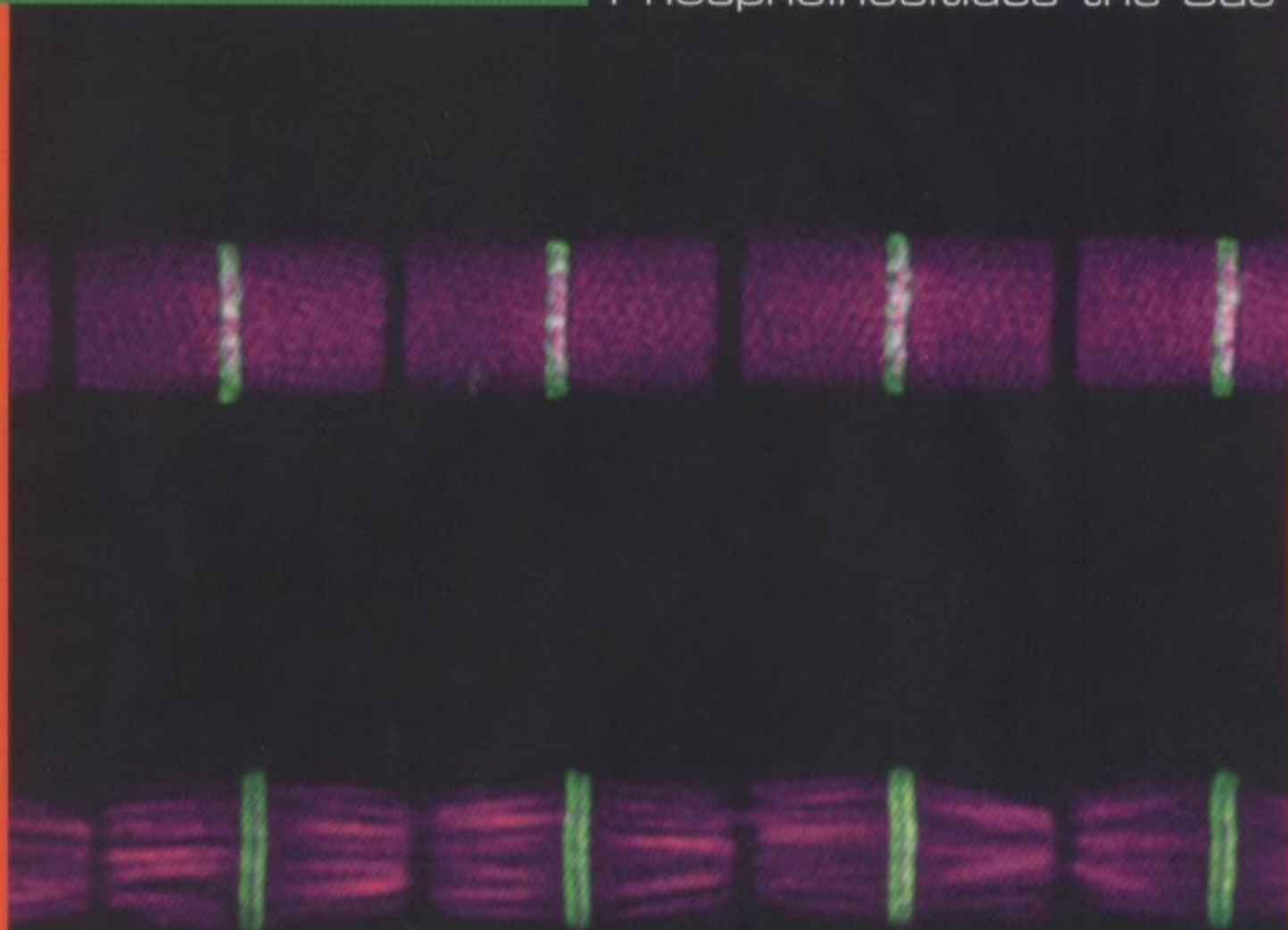
THE JOURNAL OF CELL BIOLOGY

VOL. 206, NO. 4, AUGUST 18, 2014

MagT1 Guides
Glycosylation

Sperm's Single-Molecule
Sensitivity

Vps74 Gives
Phosphoinositides the Sac



Lasp Sizes Up the Sarcomere

www.jcb.org

NEWS

In This Issue

- 452**
- MagT1 helps a glycosylase gain acceptance
 - Sperm's sensitive steering machinery
 - Lasp brings a giant down to size
Ben Short

In Focus

- 453**
- Vps74 gives phosphatase directions
Ben Short

People & Ideas

- 454**
- Heidi McBride: Mitochondria are well connected
Caiflin Sedwick

REVIEWS

Comments

- 457**
- A new piece in the kinetochore jigsaw puzzle
Kevin D. Corbett and Arshad Desai

Reviews

- 461**
- The tubulin code: Molecular components, readout mechanisms, and functions
Carsten Janke

RESEARCH ARTICLES

Reports

- 473**
- cPKC regulates interphase nuclear size during *Xenopus* development
Lisa J. Edens and Daniel L. Levy

- 485**
- Sac1-Vps74 structure reveals a mechanism to terminate phosphoinositide signaling in the Golgi apparatus
Yiyang Cai, Yongqiang Deng, Florian Horenkamp, Karin M. Reinisch, and Christopher G. Burd

Articles

- 493**
- Phosphorylated RPA recruits PALB2 to stalled DNA replication forks to facilitate fork recovery
Anar K. Murphy, Michael Fitzgerald, Teresa Ro, Jee Hyun Kim, Ariana I. Rabinowitsch, Dipanjon Chowdhury, Carl L. Schildkraut, and James A. Borowiec

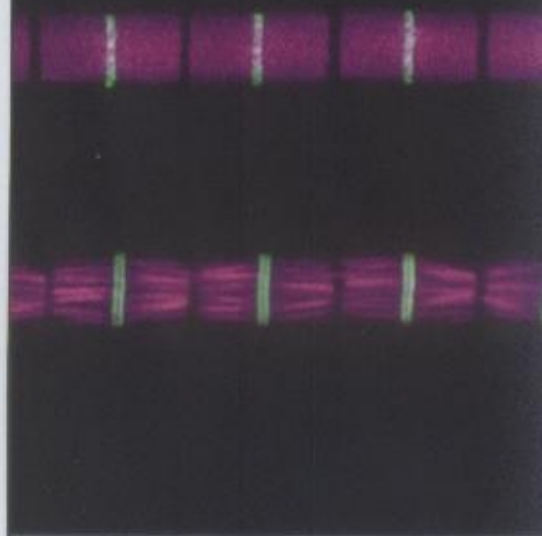
- 509**
- A cooperative mechanism drives budding yeast kinetochore assembly downstream of CENP-A
Peter Horriung, Paulina Trac, Francesca Malvezzi, Michael Maier, Zuzana Demianova, Tomasz Zmniak, Gabriele Litos, Fabienne Lampert, Alexander Schleiffer, Matthias Brunner, Karl Mechtler, Franz Herzog, Thomas C. Marlovits, and Stefan Westermann

- 525**
- Oxidoreductase activity is necessary for N-glycosylation of cysteine-proximal acceptor sites in glycoproteins
Natalia A. Cherepanova, Shiteshu Shimal, and Reid Gilmore

JCB

THE JOURNAL OF CELL BIOLOGY

VOL. 206, NO. 4, AUGUST 18, 2014



On the cover

Fernandes and Schöck reveal that Lasp, a much shorter version of the vertebrate giant protein nebulin, regulates the architecture of *Drosophila* muscle sarcomeres. Compared to a wild-type myofibril (top), a myofibril from the indirect flight muscle of a fly lacking Lasp (bottom) has shorter, misaligned thin filaments (magenta), and the titin family protein kettin (green) shows a wider distribution around each I-band. Image © 2014 Fernandes and Schöck. See page 559.

541

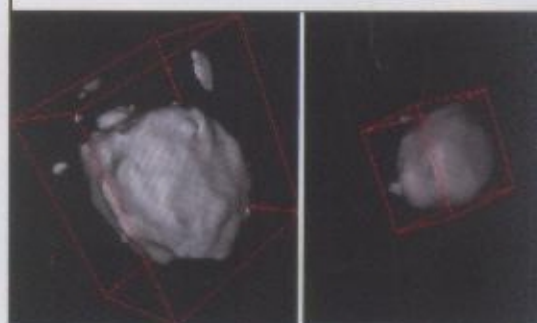
High density and ligand affinity confer ultrasensitive signal detection by a guanylyl cyclase chemoreceptor

Magdalena Pichlo, Stefanie Bonger-Plümke, Inga Weyand, Reinhard Seifert, Wolfgang Bönigk, Timo Strünker, Nachiket Dilip Kashikar, Normann Goodwin, Astrid Müller, Patric Pelzer, Qui Van, Jörg Enderlein, Clementine Klemm, Eberhard Krause, Christian Trötschel, Ansgar Poetsch, Elisabeth Kremmer, and U. Benjamin Kaupp

559

The nebulin repeat protein Lasp regulates I-band architecture and filament spacing in myofibrils

Isabelle Fernandes and Frieder Schöck



After the midblastula transition, the interphase nuclei of *Xenopus* embryos shrink, a phenomenon that can be recreated in vitro by comparing a control nucleus (left; grey) with one treated with late embryo extract (right). Edens and Levy reveal that an increase in nuclear conventional Protein Kinase C activity mediates this developmental decrease in nuclear size.

Image © 2014 Edens and Levy.
See page 473.