

Highlights of the 2010 ASCB Annual Meeting

Read summaries of 11 Minisymposia in the March 15, 2011, issue of *MBoC*.

The Editorial Board of *Molecular Biology of the Cell* has highlighted the following articles from the March 1 and March 15, 2011, issues. From among the many fine articles in the journal, the Board selects for these Highlights articles that are of broad interest and significantly advance knowledge or provide new concepts or approaches that extend our understanding.

Spatiotemporal regulations of Wee1 at the G2/M transition

H. Masuda, C. S. Fong, C. Ohtsuki, T. Haraguchi, and Y. Hiraoka

Wee1 is highly dynamic at the spindle pole body (SPB) during the G2/M transition. Wee1 accumulates at the nuclear face of the SPB when cyclin B-Cdc2 peaks at the SPB and disappears from the SPB during spindle assembly. This dynamic behavior of Wee1 at the SPB is important for regulation of cyclin B-Cdc2 activity and proper mitotic entry and progression.

Mol. Biol. Cell 22 (5), 555–569

Nup98 regulates bipolar spindle assembly through association with microtubules and opposition of MCAK

M. K. Cross and M. A. Powers

Nup98 regulates microtubule dynamics during mitotic spindle assembly by opposing the depolymerizing kinesin, MCAK. The Nup98 C-terminus binds microtubules, associates with MCAK, and is sufficient to restore bipolar spindle assembly in Nup98-depleted extracts. This is a novel mechanism by which a nucleoporin contributes to regulation of mitosis.

Mol. Biol. Cell 22 (5), 661–672

Heterotrimeric kinesin-II is necessary and sufficient to promote different stepwise assembly of morphologically distinct bipartite cilia in *Drosophila* antenna

S. C. Jana, M. Girotra, and K. Ray

Structurally distinct sensory cilia in the fly antenna grow in different stepwise patterns. The heterotrimeric kinesin-II is essential for growth at all stages, and it is also required for tubulin entry into the cilia from the beginning. This report establishes a primary function of the motor in the bipartite cilia assembly in *Drosophila*.

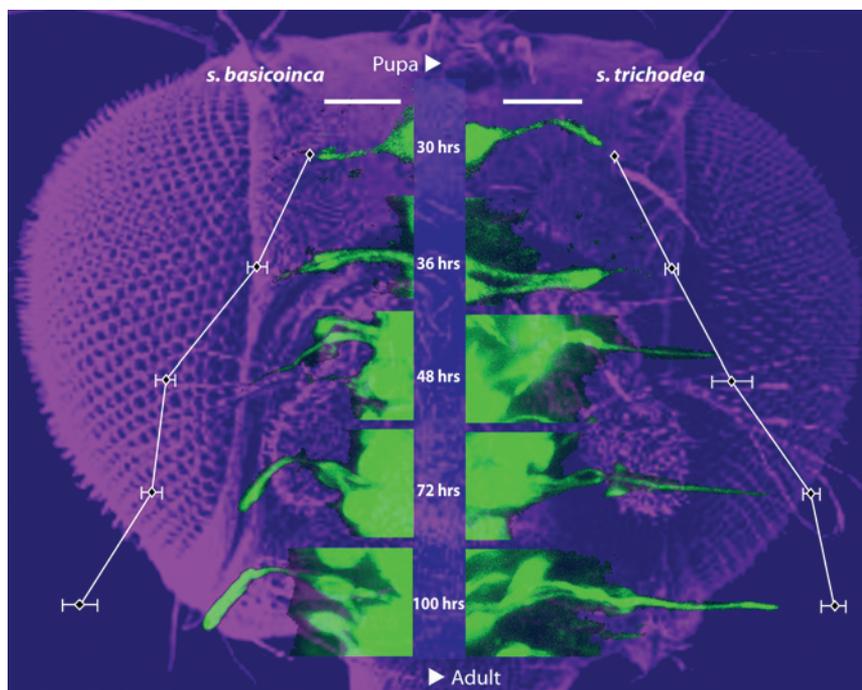
Mol. Biol. Cell 22 (6), 769–781

Nuclear import of an intact preassembled proteasome particle

A. F. Savulescu, H. Shorer, O. Kleifeld, I. Cohen, R. Gruber, M. H. Glickman, and A. Harel

Nuclear targeting of intact proteasome particles was tested in the *Xenopus* egg extract system. Both the 26S proteasome holoenzyme and the 20S core particle were targeted to the nuclear envelope but could not enter the nucleus. A novel proteolytically active 20S+ particle was actively imported into the nucleoplasm in a Ran-independent fashion.

Mol. Biol. Cell 22 (6), 880–891 ■



Differential growth profiles of structurally distinct sensory cilia in *Drosophila* antennae. (Image: S. C. Jana and K. Ray, Tata Institute of Fundamental Research, Mumbai, India)