

Meeting abstract

Open Access

Endocytosis, cell signalling, adhesion and motility

HT McMahon

Address: Neurobiology Division, MRC Laboratory of Molecular Biology, Cambridge, UK

from 12th Joint Meeting of the Signal Transduction Society (STS). Signal Transduction: Receptors, Mediators and Genes
Weimar, Germany. 29–31 October 2008

Published: 26 February 2009

Cell Communication and Signaling 2009, **7**(Suppl 1):A101 doi:10.1186/1478-811X-7-SI-A101

This abstract is available from: <http://www.biosignaling.com/content/7/SI/A101>

© 2009 McMahon; licensee BioMed Central Ltd.

Endocytosis and exocytosis play a key role in how cells respond to their environment. Endocytosis directly (and indirectly) affects responses to guidance cues and growth factors, the uptake of nutrients and even pathogens; it modulates cell signalling in response to receptor activation and is essential for cell migration. In this talk I will consider the endocytic repertoire of a cell and show how distinct mechanisms may differently affect function. I will describe the characterisation of new endocytic mechanisms and show how a molecular understanding can lead to a better view of function. I will round up with a simple view of how exocytosis can be regulated by calcium mediated signalling.

References

1. Mittal R, Peak-Chew S-Y, McMahon HT: **Acetylation of MEK2 and IkB kinase (IKK) activation loop residues by YopJ inhibits signalling.** *Proc Natl Acad Sci USA* 2006, **103**:18574-18579.
2. Schmid EM, McMahon HT: **Integrating molecular and network biology to decode endocytosis.** *Nature* 2007, **448**:883-888.
3. Martens S, McMahon HT: **Mechanisms of membrane fusion: disparate players and common principles.** *Nat Rev Mol Cell Biol* 2008, **9**:543-556.
4. Daumke O, Lundmark R, Vallis Y, Martens S, Butler J, McMahon HT: **Architectural and mechanistic insights into an EHD ATPase involved in membrane remodelling.** *Nature* 2007, **449**:923-927.