More Than Pretty Pictures

Thorsten Lang and Silvio O. Rizzoli

Review of fluorescence microscopy for analyzing the composition and dynamics of cellular elements, and how limitations of diffraction limited resolution has been lifted through several superresolution microscopy techniques.

Membrane Protein Clusters at Nanoscale Resolution:

On the cover: Lysosomal storage disorders are a set of genetic diseases that involve impaired substrate degradation, and this undegraded material accumulates in endosome-lysosome compartments. The morphology of the compartments observed in lysosomal storage patient cells includes floccular-granular storage, lipid whorls, zebra bodies, and autophagic vacuoles, which are depicted on the cover showing how they have impacted our knowledge of lysosomal biology.

Lysosomal Storage Disease: Revealing Lysosomal Function and Physiology

Emma J. Parkinson-Lawrence, Tetyana Shandala, Mark Prochoehr, Revecca Plew, Glenn N. Borlace, and Doug A. Brooks

Review of some of the history and pathophysiology of lysosomal storage disorders, showing how they have impacted our knowledge of lysosomal biology.

Roles for Growth Factors in Cancer Progression

Esther Witsch, Michael Sela, and Yosef Yarden

Once initiated by oncogenic mutations, all subsequent phases of tumor progression are controlled by growth factors, which offers ample opportunities for therapy.

Lessons from Photoreceptors: Turning Off G-Protein Signaling in Living Cells

Marie E. Burns and Edward N. Pugh, Jr.

Recent advances in the understanding of and remaining questions about a model G-protein signaling system.

Biological Roles of Acid and Neutral Sphingomyelinases and Their Regulation by Nitric Oxide

Cristiana Ferrootta and Emilio Clementi

This review describes how the outcome of key cellular processes is finely tuned by surprising and complex interplays among nitric oxide, ceramide, and their effectors.

Vol. 25, No. 4

Editorial

System Biology and the Biology of Systems

Highlights from the Literature

REVIEWs