

## In the news

### NOBEL TRAFFIC ALERT

The 2013 Nobel Prize in Physiology or Medicine has been awarded to James Rothman, Randy Schekman and Thomas Südhof for “their discoveries of machinery regulating vesicle traffic, a major transport system in our cells.” Their studies uncovered a fundamental process for normal physiology. “Without this wonderfully precise organization, the cell would lapse into chaos.” (The Nobel Foundation, 7 Oct 2013.)

The award “reflects a fundamental problem of cell biology that was approached by these investigators in three very different ways”, said Bill Wickner, Dartmouth University, USA, (*Nature News*, 7 Oct 2013). In the 1970s, Schekman (University of California, Berkeley, USA) performed a genetic screen in yeast and identified three classes of genes that control intracellular vesicle traffic. In the following two decades, Rothman (Yale University, USA) discovered the mammalian protein complex that drives vesicle docking and fusion with target membranes, ensuring precise localized cargo delivery. In the 1990s, Südhof (Stanford University, USA) revealed how signals instruct vesicles to bind and fuse to presynaptic membranes, thus determining timing of neurotransmitter release.

Their studies provided the foundation for our current understanding of vesicle traffic. Accurate cargo delivery is essential, and defects in this system underlie diseases of the nervous system, diabetes and immune disorders. However, their biomedical relevance was not immediately clear. “This [award] recognizes a fundamental discovery that I think was made without any urgent need to solve a medical problem.”, commented Hidde Ploegh, Whitehead Institute, USA, (*Nature News*, 7 Oct 2013). Indeed, Rothman emphasized that his early studies were conducted at a time when “your idea was the only limit, any risk could be taken no matter how difficult.” (*The New York Times*, 7 Oct 2013.)

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