## November 02-04, 2015 Atlanta, USA



## **Robert Zorec**

ndocrinology

Celica Biomedical Center, Slovenia

## Endocrine hormone release from a single vesicle

nternational

3<sup>rd</sup> International Conference on

conferenceseries.com

E docrine hormone release engages regulated exocytosis, a multistage process involving the merger between the vesicle and the plasma membranes. This leads to the formation of a fusion pore, a channel, through which secretions are released from the vesicle lumen to the cell exterior. A stimulus may influence the pore by either dilating it completely (full-fusion exocytosis) or mediating a reversible closure (transient exocytosis). In neurons, these transitions are short-lived and not accessible for experimentation. However, in some endocrine and gliocrine cells, initial fusion pores may reopen several hundred times, indicating their stability. Moreover, these pores are too narrow to pass luminal molecules to the extracellular space, but their diameter can dilate upon stimulation. To explain the stability of the initial narrow fusion pores, anisotropic membrane constituents with non-axisymmetrical shape were proposed to accumulate in the fusion pore membrane. Although the nature of these is unclear, they may consist of lipids and proteins, including SNAREs, which may facilitate and regulate the pre- and post-fusion stages of exocytosis and the release of vesicle hormone cargo into the extracellular space.

## **Biography**

Robert Zorec is Professor of Patho-physiology at the University of Ljubljana, Medical Faculty, a Full Member of Academia Europaea (London) and Slovenian Academy of Sciences and Arts, as well as a past Member of the Committee for Advanced Medical Products at the European Medicine's Agency (London). He received his PhD from the University of Ljubljana in 1986 for his work conducted at the Newcastle Medical School and at the MRC Neuro-endocrinology Unit in Newcastle upon Tyne, U.K. His Post-doctoral experience was at Cambridge in Dr. W T Mason's laboratory. He has lectured at over 100 distinguished Universities, International Meetings and Research Institutions worldwide. He has been a Reviewer for leading scientific journals including *Nature, Science, PNAS, J. Neurosci., J. Physiol., Biophys J., Brain Res.* and others.

robert.zorec@mf.uni-lj.si

Notes:

Volume 4, Issue 4