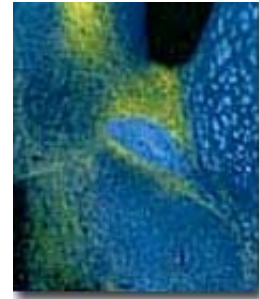




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Research Interests

Mechanisms underlying exocytosis: studies in adrenal chromaffin cells and pheochromocytoma cells. The molecular mechanisms underlying secretion of prepackaged hormones and neurotransmitters are being studied using two model, cellular systems - adrenal medullary cells in tissue culture and cultured pheochromocytoma cells (PC 12 cells). Investigations use intact cells and cells with leaky plasma membranes in which the intracellular milieu can be controlled and subcellular fractions. DNA transfection techniques are being employed. The mechanisms of action of Ca^{2+} and ATP in stimulating secretion are being investigated. The role of synaptic vesicle, plasma membrane and cytosolic proteins (SNAREs, rab3a, rabphilin3a, NSF, etc.) are being determined using novel and powerful approaches developed in the laboratory.

Selected References

Krasnoperov, V., Bittner, M. A., Holz, R.W., Oleg Chepurny, O., and Petrenko, A. G.: Structural requirements for Alpha-Latrotoxin binding and Alpha-Latrotoxin-stimulated secretion. *J. Biol. Chem.* 274: 3590-3596, 1999.

Ichtchenko, I., Bittner, M. A., Krasnoperov, V., Little, A.R., Chepurny, O., Holz, R.W., and Petrenko, A.G.: A novel ubiquitously expressed Alpha-Latrotoxin receptor is a member of the CIRL family of G protein-coupled receptors. *J. Biol. Chem.* 274: 5491-5498, 1999

Hlubek, M.D., Stuenkel, E.L., Krasnoperov, V.G., Petrenko, A.G. and Holz, R.W.: Calcium-independent receptor for α -Latrotoxin and neurexin 1a facilitate toxin-



induced channel formation: evidence that channel formation results from tethering of toxin to membrane. *Mol. Pharm.* 57: 519-528, 2000.

Holz, R.W., Hlubek, M.D., Sorensen, S.D., Fisher, S.K., Balla, T., Ozaki, S., Prestwich, G.D., Stuenkel, E.L., Bittner, M.A.: A pleckstrin homology domain specific for phosphatidylinositol 4, 5-bisphosphate (PtdIns-4,5-P2) and fused to green fluorescent protein identifies plasma membrane PtdIns-4,5-P2 as being important in exocytosis. *Journal of Biological Chemistry.* 275:17878-85, 2000

Bittner, M.A., Holz, R.W.: Latrotoxin stimulates secretion in permeabilized cells by regulating an intracellular Ca^{2+} - and ATP-dependent event: a role for protein kinase C. *Journal of Biological Chemistry.* 275:25351-7, 2000

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