Institute for Quantitative Biomedicine (IQB)

SPECIAL NEUROSCIENCE SEMINAR

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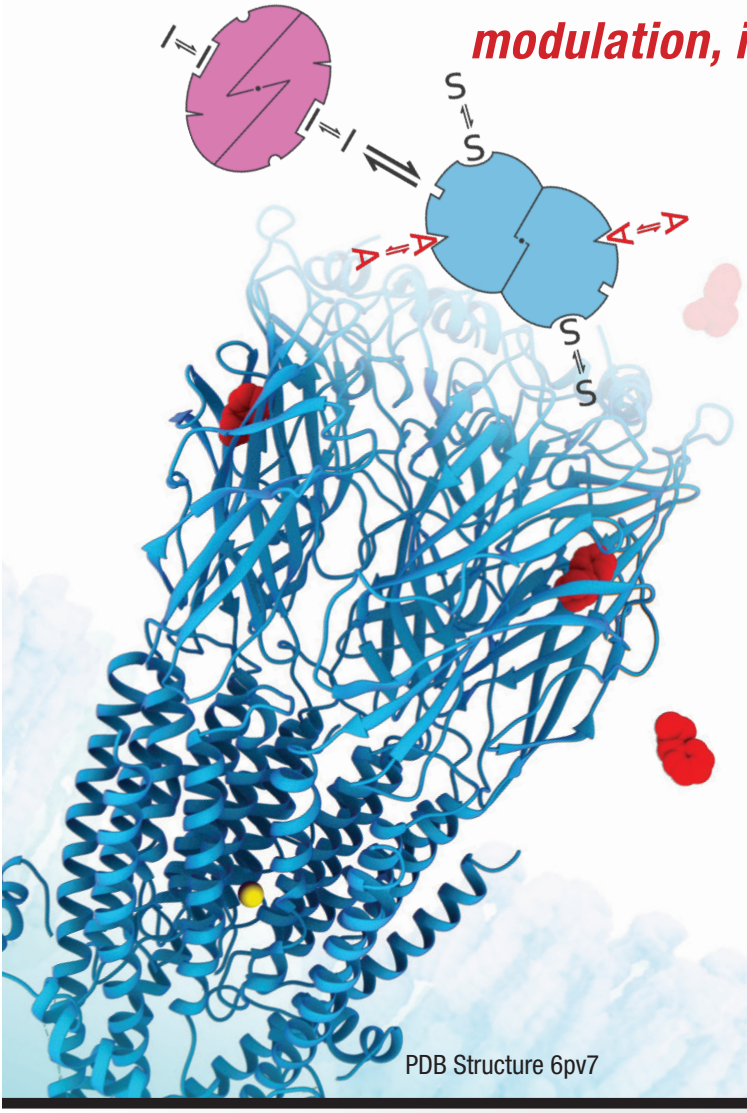
Molecular Dynamics of Brain Ligand Gated Ion Channels: From signal transduction to allosteric modulation, implications for drug discovery



PDB Structure 6pv7

Tuesday, February 25
11:00 AM
Proteomics, Rm. 120

Background Information

The concept of allosteric interaction was initially proposed to account for the inhibitory feedback mechanism mediated by bacterial regulatory enzymes. In contrast with the classical mechanism of competitive, steric, interaction between ligands for a common site, allosteric interactions take place between topographically distinct sites and are mediated by a discrete and reversible conformational change of the protein. The concept was soon extended to membrane receptors for neurotransmitters and shown to apply to the signal transduction process which, in the case of the acetylcholine nicotinic receptor (nAChR), links theACh binding site to the ion channel.

J-P. Changeux (2018) The nicotinic acetylcholine receptor: a typical 'allosteric machine'. *Phil. Trans. R. Soc.* B **373**:20170174.

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