Dynamics of the Human β_2 Adrenergic Receptor

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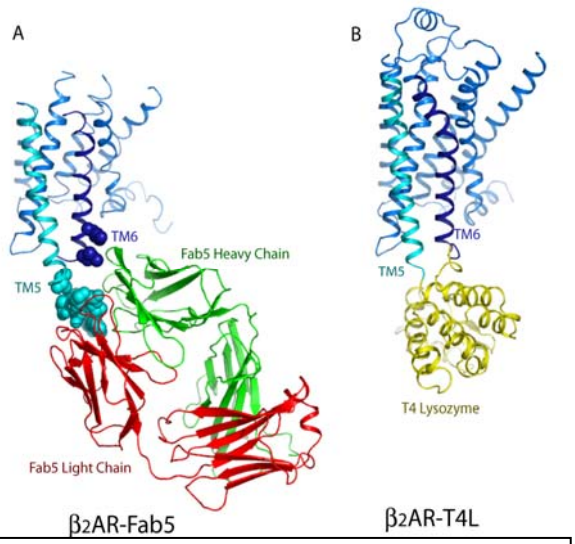
G protein coupled receptors (GPCRs) are remarkably versatile signaling molecules. The β_2 adrenoceptor (β_2AR) is a prototypical Family A GPCR that mediates physiologic responses to adrenaline and noradrenaline. The function of the β_2AR can be modulated by a spectrum of synthetic ligands ranging from full agonists to inverse agonists. We have used crystallography to determine the three-dimensional structure of the β_2AR [1-3], and fluorescence spectroscopy to map ligand-induced conformational changes and characterize the structure of beta2AR dimers [4-7]. I will discuss what we these studies have taught us about the structural basis of β_2AR function.



Crystal structures of the β_2AR. A. β_2AR in complex with Fab fragment. B. β_2AR-T4 lysozyme fusion

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