G protein-coupled receptors (GPCRs), also known as seven-(pass)-transmembrane domain receptors, 7TM receptors, heptahelical receptors, serpentine receptors, and G protein-linked receptors (GPLR), form a large group of evolutionarily-related proteins that are cell surface receptors that detect molecules outside the cell and activate cellular responses. Coupling with G proteins, they are called seven-transmembrane receptors because they pass through the cell membrane seven times.

Ligands can bind either to extracellular N-terminus and loops (e.g. glutamate receptors) or to the binding site within transmembrane helices (Rhodopsin-like family). They are all activated by agonists although a spontaneous auto-activation of an empty receptor can also be observed.

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