

Ligand-induced activation and G protein coupling of prostaglandin F₂? receptor

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Prostaglandin F₂? (PGF₂?) , an endogenous arachidonic acid metabolite, regulates diverse physiological functions i

These structures reveal distinct features of FP within the lipid receptor family in terms of ligand binding selectivity, its receptor activation, and G protein coupling mechanisms, including activation in the absence of canonical PIF and ERY motifs and Gq coupling through direct interactions with receptor transmembrane helix 1 and intracellular loop 1. Together with mutagenesis and functional studies, our structures reveal mechanisms of ligand recognition, receptor activation, and G protein coupling by FP, which could facilitate rational design of FP-targeting drugs.

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