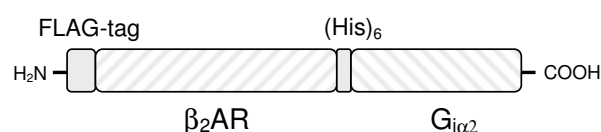


β_2 -AR- $G_{i\alpha 2}$ + $\beta_1\gamma_2$

β_2 -Adrenergic Receptor $G_{i\alpha 2}$ fusion protein + $\beta_1\gamma_2$ -subunits
human, recombinant, Sf9 insect cells

Cat. No.	Amount
PR-540	1 ml



For *in vitro* use only
Quality guaranteed for 12 months
Store at -80°C

Avoid freeze / thaw cycles

Form

Membrane suspension. Supplied in 75 mM Tris-HCl pH 7.4, 12.5 mM MgCl₂ and 1 mM EDTA.

Molecular Weight

90 + 36 kDa

Activity

3.5 - 7.7 pmol/mg

Description

β_2 -Adrenergic receptor- $G_{i\alpha 2}$ is a fusion protein in which the $G_{i\alpha 2}$ N-terminus is linked to the β_2 -adrenoceptor (β_2 AR) C-terminus via a hexahistidine (His₆)-tag.

The β_2 AR is activated by the catecholamine epinephrine and couples to the G-protein G_s to mediate adenylyl cyclase (AC) activation. β_2 ARs are found in numerous tissues and cell types including vascular and bronchial smooth muscle cells, leukocytes and liver.

β_2 ARs mediate smooth muscle relaxation, inhibition of leukocyte function and activation of glycogenolysis.

In addition to G_s -proteins, the β_2 AR can also couple to G_T -proteins. The β_2 AR- $G_{i\alpha 2}$ fusion protein ensures a defined 1:1 stoichiometry of the receptor and the $G_{i\alpha 2}$ subunit. Coupling efficiency in the β_2 AR- $G_{i\alpha 2}$ fusion protein is lower than in β_2 AR- $G_{s\alpha}$ fusion proteins (cat.# PR-532 and PR-544) as assessed by high-affinity agonist binding and [³⁵S]GTP- γ S binding. The β_2 AR- $G_{i\alpha 2}$ fusion protein is efficient at activating AC. Presumably, the β_2 AR targets $G_{i\alpha 2}$ into the $G_{s\alpha}$ site of AC. The presence of the $\beta_1\gamma_2$ -complex reduces the maximum AC activities compared to β_2 AR- $G_{i\alpha 2}$ expressed alone (cat.# PR-539).

The β_2 AR contains a N-terminal FLAG-tag® for immunochemical detection.

Selected References:

Asano *et al.* (1984) Activation of the inhibitory GTP-binding protein of adenylyl cyclase, G_i , by β -adrenergic receptors in reconstituted phospholipid vesicles. *J. Biol. Chem.* **259**:9351.

Seifert *et al.* (1998) Reconstitution of β_2 -adrenoceptor-GTP-bindingprotein interaction in Sf9 cells: High coupling efficiency in β_2 -adrenoceptor- $G_{s\alpha}$ fusion protein. *Eur. J. Biochem.* **255**:369.

Wenzel-Seifert *et al.* (2000) Molecular analysis of β_2 -adrenoceptor coupling to G_s , G_T , and G_q -proteins. *Mol. Pharmacol.* **58**:954.

Seifert *et al.* (2002) Efficient adenylyl cyclase activation by a β_2 -adrenoceptor- $G_{i\alpha 2}$ fusion protein. *Biochem. Biophys. Res. Commun.* **298**:824.