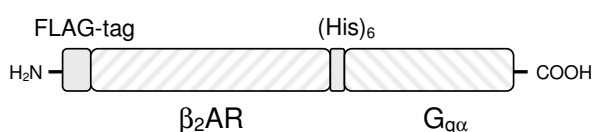


β_2 -AR- $G_{q\alpha}$ + $\beta_1\gamma_2$

β_2 -Adrenergic Receptor $G_{q\alpha}$ fusion protein + $\beta_1\gamma_2$ -subunits

human, recombinant, Sf9 insect cells

Cat. No.	Amount
PR-542	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

12.4 pmol/mg

Description

β_2 -Adrenergic receptor- $G_{q\alpha}$ is a fusion protein in which the $G_{q\alpha}$ N-terminus is linked to the β_2 -adrenoceptor (β_2 AR) C-terminus via a hexahistidine (His_6)-tag.

The β_2 AR is activated by the catecholamine epinephrine and couples to the G-protein G_s to mediate adenylate 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 the AC pathway, β_2 ARs may also activate phospholipase C- β (PLC- β) via G-proteins of the G_q -family. PLC- β catalyzes the cleavage of phosphatidylinositol-4,5-bisphosphate (PIP₂) into the second messengers inositol-1,4,5-trisphosphate (IP₃) and 1,2-diacylglycerol (DAG).

The β_2 -AR- $G_{q\alpha}$ fusion protein ensures a defined 1:1 stoichiometry of the receptor and the $G_{q\alpha}$ subunit.

Coupling efficiency in the β_2 AR- $G_{q\alpha}$ fusion protein is lower than in the 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 contains a N-terminal FLAG-tag® for immunochemical detection.

Selected References:

Offermanns *et al.* (1995) $G_{\alpha 15}$ and $G_{\alpha 16}$ couple a wide variety of receptors to phospholipase C. *J. Biol. Chem.* **270**:15175.

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_r , and G_q proteins. *Mol. Pharmacol.* **58**:954.