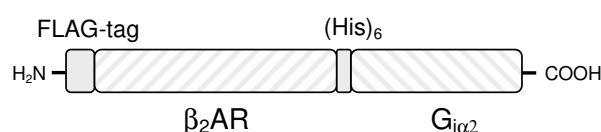


## $\beta_2$ -AR- $G_{i\alpha 2}$

$\beta_2$ -Adrenergic Receptor  $G_{i\alpha 2}$  fusion protein  
 human, recombinant, Sf9 insect cells

Cat. No.	Amount
PR-539	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 MgCl<sub>2</sub> and 1 mM EDTA.

### Molecular Weight

90 kDa

### Activity

4 - 15 pmol/mg

### Description

$\beta_2$ -Adrenergic receptor- $G_{i\alpha 2}$  is a fusion protein in which the  $G_{i\alpha 2}$  N-terminus is linked to the  $\beta_2$ -adrenoceptor ( $\beta_2$ AR) C-terminus via a hexahistidine (His<sub>6</sub>)-tag.

The  $\beta_2$ AR is activated by the catecholamine epinephrine and couples to the G-protein  $G_s$  to mediate adenylate cyclase (AC) activation.  $\beta_2$ ARs are found in numerous tissues and cell types including vascular and bronchial smooth muscle cells, leukocytes and liver.

$\beta_2$ ARs mediate smooth muscle relaxation, inhibition of leukocyte function and activation of glycogenolysis.

In addition to  $G_s$ -proteins, the  $\beta_2$ AR can also couple to  $G_T$ -proteins. The  $\beta_2$ 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  $\beta_2$ AR- $G_{i\alpha 2}$  fusion protein is lower than in  $\beta_2$ AR- $G_{s\alpha}$  fusion proteins (cat.# PR-532 and PR-544) as assessed by high-affinity agonist binding and [<sup>35</sup>S]GTP $\gamma$ S binding. The  $\beta_2$ AR- $G_{i\alpha 2}$  fusion protein is efficient at activating AC. Presumably, the  $\beta_2$ AR targets  $G_{i\alpha 2}$  into the  $G_{s\alpha}$  site of AC.

The  $\beta_2$ AR contains a N-terminal FLAG-tag® for immunochemical detection.

### Selected References:

- Asano *et al.* (1984) Activation of the inhibitory GTP-binding protein of adenylate cyclase,  $G_i$ , by  $\beta$ -adrenergic receptors in reconstituted phospholipid vesicles. *J. Biol. Chem.* **259**:9351.
- Seifert *et al.* (1998) Reconstitution of  $\beta_2$ -adrenoceptor-GTP-bindingprotein interaction in Sf9 cells: High coupling efficiency in  $\beta_2$ -adrenoceptor- $G_{s\alpha}$  fusion protein. *Eur. J. Biochem.* **255**:369.
- Wenzel-Seifert *et al.* (2000) Molecular analysis of  $\beta_2$ -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  $\beta_2$ -adrenoceptor- $G_{i\alpha 2}$  fusion protein. *Biochem. Biophys. Res. Commun.* **298**:824.