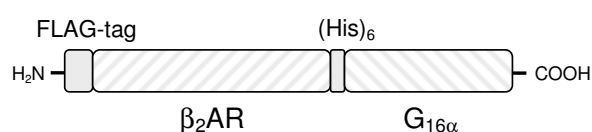


## $\beta_2$ -AR-G<sub>16 $\alpha$</sub> $\beta_2$ -Adrenergic Receptor G<sub>16 $\alpha$</sub> fusion protein human, recombinant, Sf9 insect cells

Cat. No.	Amount
PR-549	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

### Receptor expression level

5.5 pmol/mg.

### Description

$\beta_2$ -Adrenergic receptor-G<sub>16 $\alpha$</sub>  is a fusion protein in which the G<sub>16 $\alpha$</sub>  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<sub>s</sub> 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 the AC pathway,  $\beta_2$ ARs may also activate phospholipase C- $\beta$  (PLC- $\beta$ ) via G-proteins of the G<sub>q</sub>-family. PLC- $\beta$  catalyzes the cleavage of phosphatidylinositol-4,5-bisphosphate (PIP<sub>2</sub>) into the second messengers inositol-1,4,5-trisphosphate (IP<sub>3</sub>) and 1,2-diacylglycerol (DAG).

The  $\beta_2$ AR-G<sub>16 $\alpha$</sub>  fusion protein ensures a defined 1:1 stoichiometry of the receptor and the G<sub>16 $\alpha$</sub>  subunit.

Coupling efficiency in the  $\beta_2$ AR-G<sub>16 $\alpha$</sub>  fusion protein is lower than in the  $\beta_2$ AR-G<sub>s $\alpha$</sub>  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 contains a N-terminal FLAG-tag® for immunochemical detection.

### Selected References:

Offermanns *et al.* (1995) G <sub>$\alpha$ 15</sub> and G <sub>$\alpha$ 16</sub> couple a wide variety of receptors to phospholipase C. *J. Biol. Chem.* **270**:15175.

Seifert *et al.* (1998) Reconstitution of  $\beta_2$ -adrenoceptor-GTP-binding-protein interaction in Sf9 cells: High coupling efficiency in  $\beta_2$ -adrenoceptor-G<sub>s $\alpha$</sub>  fusion protein. *Eur. J. Biochem.* **255**:369.

Wenzel-Seifert *et al.* (2000) Molecular analysis of  $\beta_2$ -adrenoceptor coupling to G<sub>s</sub>, G<sub>r</sub>, and G<sub>q</sub>-proteins. *Mol. Pharmacol.* **58**:954.