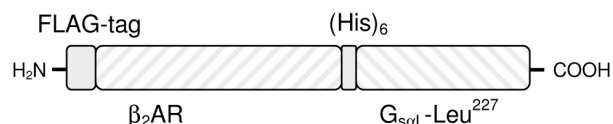


## $\beta_2$ -AR- $G_{s\alpha L}$ -Leu<sup>227</sup>

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

Cat. No.	Amount
PR-533	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

104 kDa

### Activity

7 pmol/mg

### Description

$\beta_2$ -Adrenergic receptor- $G_{s\alpha L}$ -Leu<sup>227</sup> is a fusion protein in which the  $G_{s\alpha L}$  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 adenylylate 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.

$G_{s\alpha L}$  is the long splice variant of the  $\alpha$ -subunit of the heterotrimeric G-protein  $G_s$ .  $G_s$  activates the effector AC.  $G_{s\alpha L}$  differs from the short splice variant ( $G_{s\alpha S}$ ) by a 15-amino acid insert between the ras-like domain and the  $\alpha$ -helical domain.  $G_{\alpha L}$  (cat.# PR-501) possesses a lower GDP-affinity than  $G_{s\alpha S}$  (cat.# PR-505).

The exchange of Gln<sup>227</sup> to Leu<sup>227</sup> (Q/L mutation) in the catalytic site abolishes the intrinsic GTPase activity and increases the GDP-affinity of  $G_{s\alpha L}$ , resulting in a constitutively active G-protein.

The fusion protein contains a N-terminal FLAG-tag® for immunochemical detection.

### Selected References:

- Seifert *et al.* (1998) Different effects of  $G_{\alpha S}$  splice variants on  $\beta_2$ -adrenoceptor-mediated signaling. *J. Biol. Chem.* **273**:5109.  
 Graziano *et al.* (1989) Synthesis in *Escherichia coli* of GTPase-deficient mutants of  $G_{s\alpha}$ . *J. Biol. Chem.* **264**:15475.  
 Seifert *et al.* (1998) Reconstitution of  $\beta_2$ -adrenoceptor-GTP-binding-protein interaction in Sf9 cells: High coupling efficiency in  $\beta_2$ -adrenoceptor- $G_{s\alpha}$  fusion protein. *Eur. J. Biochem.* **255**:369.  
 Gille *et al.* (2003) GDP affinity and order state of the catalytic site are critical for function of xanthine nucleotide-selective  $G_{s\alpha}$  proteins. *J. Biol. Chem.* **278**:7822.