**β₂-AR-GsαL-Leu²²⁷-Asn²⁹⁵**

**β₂-Adrenergic Receptor GsαL fusion protein**
human, recombinant, Sf9 insect cells

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<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR-534</td>
<td>1 ml</td>
</tr>
</tbody>
</table>

**For in vitro use only!**

**Shipping:** shipped on dry ice

**Storage Conditions:** store at -80 °C

**Additional Storage Conditions:** avoid freeze/thaw cycles

**Shelf Life:** 12 months

**Molecular Weight:** 104 kDa

**Accession number:** AF022956

**Form:** Membrane suspension (Supplied in 75 mM Tris-HCl pH 7.4, 12.5 mM MgCl₂ and 1 mM EDTA)

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**Description:**

β₂-Adrenergic receptor-GsαL-Leu²²⁷-Asn²⁹⁵ is a fusion protein in which the GsαL-Leu²²⁷-Asn²⁹⁵ N-terminus is linked to the β₂-adrenoreceptor (β₂AR) C-terminus via a hexahistidine (His)₆-tag. The β₂AR is activated by the catecholamine epinephrine and couples to the G-protein Gs to mediate adenylate cyclase (AC) activation. β₂ARs are found in numerous tissues and cell types including vascular and bronchial smooth muscle cells, leukocytes and liver. β₂ARs mediate smooth muscle relaxation, inhibition of leukocyte function and activation of glycogenolysis. GsαL is the long splice variant of the α-subunit of the heterotrimeric G-protein Gs. GsαL activates the effector AC. GsαL differs from the short splice variant (GsαS) by a 15-amino acid insert between the ras-like domain and the α-helical domain. GsαL (cat.# PR-501) possesses a lower GDP-affinity than GsαS (cat.# PR-505). GTP-binding proteins possess a highly conserved aspartate residue in the NKXD motif that is critical for high-affinity interaction with GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. The exchange of Asp²²⁷ to Asn²⁹⁵ leads to an inactive GsαL-mutant. However, an additional Q/L-mutation in the catalytic site (Gln²⁷7 → Leu²⁷7) that abolishes GTPase activity and increases GDP-affinity rescues protein function and induces specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP and GppNHp (cat.# NU-401), respectively. In contrast, the mutant is not specific for XTPyS (cat.# NU-404) relative to GTPyS (cat.# NU-412), probably because of conformational alterations in the catalytic site by the γ-thiophosphate. The fusion protein contains a N-terminal FLAG-tag® for immunochemical detection.

**Activity:**
3.7 pmol/mg

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**Selected References:**


Gille et al. (2003) GDP affinity and order state of the catalytic site are critical for function of xanthine nucleotide-selective Gαs proteins. J. Biol. Chem. **278:**7822.