

**G_{sαS}-Leu²¹²-Asn²⁸⁰**

stimulatory heterotrimeric G-protein, short splice variant of the α-subunit
rat, recombinant, Sf9 insect cells

Cat. No.	Amount
PR-506	1 ml

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: 45 kDa

Accession number: NM_019132

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

Description:

G_{sαS} is the short splice variant of the α-subunit of stimulatory heterotrimeric G_s-proteins. In contrast to the long splice variant (G_{sαL}) G_{sαS} lacks the 15-amino acid insert between the Ras like and the α-helical domain. G_{sαS} activates adenylate cyclase (AC) and possesses a higher GDP-affinity than G_{sαL} (cat.# PR-501). The differences in GDP-binding between G_{sαS} and G_{sαL} have important consequences for receptor/G-protein coupling and activation. In contrast to all other known G_α D/N mutants, the exchange of Asp²⁸⁰ to Asn²⁸⁰ in G_{sαS} does not lead to an inactivation in nucleotide binding. Mutation of Gln²¹² to Leu²¹² inhibits the intrinsic GTPase activity, resulting in a constitutively activated G_{sαS}. This mutation also increases the GDP-affinity of G_{sαS}.

Selected References:

Graziano *et al.* (1989) Expression of G_{sα} in Escherichia coli. Purification and properties of two forms of the protein. *J. Biol. Chem.* **264**:409.

Yu *et al.* (1998) Interaction of the Xanthine Nucleotide Binding G_α Mutant with G Protein-coupled Receptors. *J. Biol. Chem.* **273**:30183.

Gille *et al.* (2003) 2' (3')-O- (N-Methylanthraniloyl)- substituted GTP Analogs: A Novel Class of Potent Competitive Adenylyl Cyclase Inhibitors. *J. Biol. Chem.* **278**:12672.

Gille *et al.* (2003) GDP Affinity and Order State of the catalytic Site Are Critical for Function of Xanthine Nucleotide-selective G_{αS} Proteins. *J. Biol. Chem.* **278**:7822.