

$G_{s\alpha S}$ -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
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 MgCl₂ and 1 mM EDTA.

Molecular Weight

45 kDa

Description

$G_{s\alpha S}$ is the short splice variant of the α -subunit of stimulatory heterotrimeric G_s-proteins. In contrast to the long splice variant ($G_{s\alpha L}$) $G_{s\alpha S}$ lacks the 15-amino acid insert between the Ras like and the α -helical domain.

$G_{s\alpha S}$ activates adenylate cyclase (AC) and possesses a higher GDP-affinity than $G_{s\alpha L}$ (cat.# PR-501).

The differences in GDP-binding between $G_{s\alpha S}$ and $G_{s\alpha L}$ 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 $G_{s\alpha S}$ does not lead to an inactivation in nucleotide binding.

Mutation of Gln²¹² to Leu²¹² inhibits the intrinsic GTPase activity, resulting in a constitutively activated $G_{s\alpha S}$. This mutation also increases the GDP-affinity of $G_{s\alpha S}$.

Selected References:

Graziano *et al.* (1989) Expression of $G_{s\alpha}$ 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 $G_{0\alpha}$ 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 $G_{\alpha S}$ Proteins. *J. Biol. Chem.* **278**:7822.

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