

## $G_{s\alpha L}$ -Asn<sup>295</sup>

stimulatory heterotrimeric G-protein, long splice variant of the  $\alpha$ -subunit

Rat, Recombinant, Sf9 insect cells

Cat. No.	Amount
PR-502	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.

#### Protein concentration

1.1 mg/ml

### Description

$G_{s\alpha L}$  is the long splice variant of the  $\alpha$ -subunit of stimulatory heterotrimeric G<sub>s</sub>-proteins. It 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.  $G_{s\alpha L}$  activates adenylate cyclase (AC) and possesses a lower GDP-affinity than  $G_{s\alpha S}$  (cat.# PR-505).

These differences in GDP-affinity have important consequences for receptor/G-protein coupling and AC activation.

GTP-binding possesses a highly conserved aspartate residue in the NKXD motif that is critical for high-affinity interaction with GTP. In almost all GTP-binding proteins so far, the D/N-mutation switches base-specificity from guanine to xanthine. The mutant  $G_{s\alpha L}$ -Asn<sup>295</sup> is functionally inactive in terms of nucleotide binding.

### 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.

Gille, A. and Seifert, R. (2003) 2'-(3')-O-(N-Methylantraniloyl)-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

### Associated products available from Jena Bioscience

**Non-hydrolyzable GTP-analogs** (such as GTP $\gamma$ S, GppCp, GppNHp, NPE-caged-GTP...)

**Fluorescent GTPs** (such as MANT, ANT, TNP, or GTP labeled with a dye of your choice)

**Recombinant G-protein signaling reagents** including GAPs, GEFs, small GTPases, and many more...

**For detailed information please view the sections on**

**G<sub>sαL</sub>-Asn<sup>295</sup>**

stimulatory heterotrimeric G-protein, long splice variant of the α-subunit

Rat, Recombinant, Sf9 insect cells

<http://www.jenabioscience.com>