DATA SHEET

Jena Bioscience

$G_{s\alpha S}$-Leu^{212}-Asn^{280}

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 $MgCl_2$ and 1 mM EDTA)

pH: 7.4

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 Asp^{280} to Asn^{280} in $G_{s\alpha S}$ does not lead to an inactivation in nucleotide binding. Mutation of Gln^{212} to Leu^{212} 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.