

Recombinant Rat GNAO Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52407

Size: 10ug, 100ug

Protein Name: Guanine nucleotide-binding protein G(o) subunit alpha (EC 3.6.5.-)

Synonym: Gnao1, Gna0, Gnao

UniProt ID: P59215

UniProt Link: www.uniprot.org/uniprotkb/P59215/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 354 AA

Molecular Weight: 40 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGCTLSAEERAALERSKAIEKNLKEDGISAADVKLLLLGAGESGKSTIVKQMKIIHEDGFSGEDVKQ
YKPVVYSNTIQSLAAIVRAMDTLGVEYGDKERKADSKMVCDVVSRLMEDTEPFSAELLSAMMRLWGD
SGIQECFNRSREYQLNDSAKYYLDSLDRIGAADYQPTEQDILRTRVKTGIVETHFTFKNLHFRLFDV
GGQRSEKRWIHCFFEDVTAIIFCVSLSGYDQVLHEDETTNRMHESLMLFDSICNNKFFIDTSIILFLNK
KDLFGKIKKSPLTICFPEYPGSNTYEDAAAYIQTFESKNRSPNKEIYCHMTCATDTNNIQVVFDAVT
DIIANNLRGCGLY

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Guanine nucleotide-binding protein G(o) subunit alpha (EC 3.6.5.-) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Guanine nucleotide-binding proteins (G proteins) function as transducers downstream of G protein-coupled receptors (GPCRs) in numerous signaling cascades, such as regulation of postsynaptic neurotransmitter release (PubMed:11050179). The alpha chain contains the guanine nucleotide binding site and alternates between an active, GTP-bound state and an inactive, GDP-bound state (By similarity). Signaling by an activated GPCR promotes GDP release and GTP binding (By similarity). The alpha subunit has a low GTPase activity that converts bound GTP to GDP, thereby terminating the signal (By similarity). Both GDP release and GTP hydrolysis are modulated by numerous regulatory proteins (By similarity). Signaling is mediated via effector proteins, such as adenylate cyclase: GNAO1 acts by inhibiting the activity of adenylate cyclases, leading to decreased intracellular cAMP levels (By similarity). Plays a key role in postsynaptic inhibition of neurotransmitter release (PubMed:11050179).

Subcellular Localization: Cell membrane ; Peripheral membrane protein ; Cytoplasmic side .
Note=Associated to the cell membrane via lipid-anchor.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.