

## GNAI3 Protein, Human, Recombinant (His)

## General Information

Synonyms: Guanine nucleotide-binding protein G(i) subunit alpha-3;G(i) alpha-3;GNAI3

Protein Construction: 1-354 aa

Species: Human

Expression Host: E. coli

Accession: P08754

Molecular Weight: 44.5 kDa (predicted)

AA Sequence:

MGCTLSAEDKAAVERSKMIDRNLRDGEKAAKEVKLLLLGAGESGKSTIVKQMKIIHEDGYSEDECKQYKVVV  
YSNTIQSIIAIRAMGRLKIDFGEAARADDARQLFVLGSAEAGVMTPELAGVIKRLWRDGGVQACFSRSREYQ  
LNSASYYLNDLDRISQSNIPTQQDVLRTVKTGGIVETHFTFKDLYFKMFDVGGQSRERKKWIHCFEGVTAII  
FCVALSDYDLVLAEDEEMNRMHESMKLFDSICNNKWFTEISILFLNKKDLFEKIKRSPLTICYPEYTGSTNYEE  
AAAYIQCFEDLNRRKDTKEIYTHFTCATDTKNVQFVFDVAVTDVVIKNNLKECGLY

## QC Testing

Biological Activity: Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: > 90% as determined by SDS-PAGE.

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Tris-based buffer, 50% glycerol

## Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

## Protein Background

Heterotrimeric guanine nucleotide-binding proteins (G proteins) function as transducers downstream of G protein-coupled receptors (GPCRs) in numerous signaling cascades. The alpha chain contains the guanine nucleotide binding site and alternates between an active, GTP-bound state and an inactive, GDP-bound state. Signaling by

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an activated GPCR promotes GDP release and GTP binding. The alpha subunit has a low GTPase activity that converts bound GTP to GDP, thereby terminating the signal. Both GDP release and GTP hydrolysis are modulated by numerous regulatory proteins. Signaling is mediated via effector proteins, such as adenylylase. Inhibits adenylylase activity, leading to decreased intracellular cAMP levels. Stimulates the activity of receptor-regulated K(+) channels. The active GTP-bound form prevents the association of RGS14 with centrosomes and is required for the translocation of RGS14 from the cytoplasm to the plasma membrane. May play a role in cell division.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481