

GAIP (A-10): sc-365157

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. In mammals, G protein α , β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Four G_{α} GTPase-activating proteins (GAPs) have been identified and are designated RGS1 (regulator of G protein signaling), RGS4, RGS10 and GAIP (G_{α} -interacting protein). Each of these proteins has been shown to deactivate specific G_{α} isoforms by increasing the rate at which they convert GTP to GDP, RGS1, RGS4 and GAIP bind tightly to and exhibit GAP activity towards $G_{\alpha i}$, $G_{\alpha o}$ and $G_{\alpha t}$, but not $G_{\alpha s}$. RGS10 increases the GTP hydrolytic activity of several members of the $G_{\alpha i}$ subfamily including $G_{\alpha i-3}$, $G_{\alpha z}$ and $G_{\alpha o}$.

REFERENCES

1. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
2. Cali, J.J., et al. 1992. Selective tissue distribution of G protein γ subunits, including a new form of the γ subunits identified by cDNA cloning. *J. Biol. Chem.* 267: 24023-24027.
3. McLaughlin, S.K., et al. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. *Nature* 357: 563-569.
4. von Weizsäcker, E., et al. 1992. Diversity among the β subunits of heterotrimeric GTP-binding proteins: characterization of a novel β subunit cDNA. *Biochem. Biophys. Res. Commun.* 183: 350-356.
5. Kleuss, C., et al. 1992. Different β subunits determine G protein interaction with transmembrane receptors. *Nature* 358: 424-426.
6. Conklin, B.R. and Bourne, H.R. 1993. Structural elements of G_{α} subunits that interact with $G_{\beta\gamma}$ receptors, and effectors. *Cell* 73: 631-641.
7. Watson, N., et al. 1996. RGS family members: GTPase-activating proteins for heterotrimeric G protein α subunits. *Nature* 383: 172-175.

CHROMOSOMAL LOCATION

Genetic locus: RGS19 (human) mapping to 20q13.33; Rgs19 (mouse) mapping to 2 H4.

SOURCE

GAIP (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 189-216 at the C-terminus of GAIP of human origin.

PRODUCT

Each vial contains 200 μ g IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365157 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GAIP (A-10) is recommended for detection of GAIP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GAIP siRNA (h): sc-40657, GAIP siRNA (m): sc-40658, GAIP shRNA Plasmid (h): sc-40657-SH, GAIP shRNA Plasmid (m): sc-40658-SH, GAIP shRNA (h) Lentiviral Particles: sc-40657-V and GAIP shRNA (m) Lentiviral Particles: sc-40658-V.

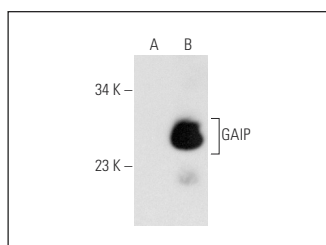
Molecular Weight of GAIP: 25 kDa.

Positive Controls: GAIP (h): 293 Lysate: sc-110588.

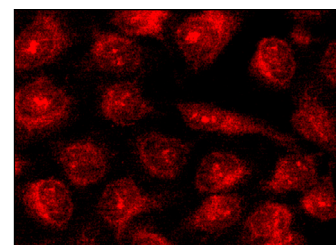
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GAIP (A-10): sc-365157. Western blot analysis of GAIP expression in non-transfected: sc-110760 (A) and human GAIP transfected: sc-110588 (B) 293 whole cell lysates.



GAIP (A-10): sc-365157. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.