

# GAIP (C-11): sc-365156

## BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. In mammals, G protein  $\alpha$ ,  $\beta$  and  $\gamma$  polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their  $\alpha$  subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Four  $G_{\alpha}$  GTPase-activating proteins (GAPs) have been identified and are designated RGS1 (regulator of G protein signaling), RGS4, RGS10 and GAIP ( $G_{\alpha}$ -interacting protein). Each of these proteins has been shown to deactivate specific  $G_{\alpha}$  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

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

## CHROMOSOMAL LOCATION

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

## SOURCE

GAIP (C-11) 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  $\mu$ g IgG<sub>2b</sub> 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-365156 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

GAIP (C-11) 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  $\mu$ g per 100-500  $\mu$ 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.

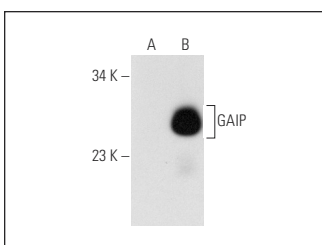
Molecular Weight of GAIP: 25 kDa.

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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 (C-11): sc-365156. Western blot analysis of GAIP expression in non-transfected: sc-110760 (A) and human GAIP transfected: sc-110588 (B) 293 whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.