

GAIP (C-20): sc-6207

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. McLaughlin, S.K., et al. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. *Nature* 357: 563-569.
3. Kleuss, C., et al. 1992. Different β -subunits determine G-protein interaction with transmembrane receptors. *Nature* 358: 424-426.
4. 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.
5. 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. Comm.* 183: 350-356.
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 20q13.3; Rgs19 (mouse) mapping to 2 H4.

SOURCE

GAIP (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GAIP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6207 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

GAIP (C-20) 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

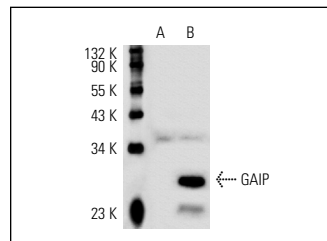
GAIP (C-20) is also recommended for detection of GAIP in additional species, including equine, canine and bovine.

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.

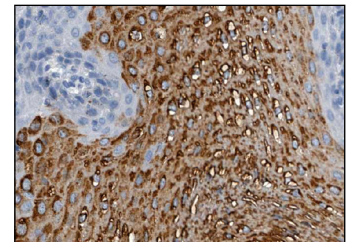
Molecular Weight of GAIP: 25 kDa.

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

DATA



GAIP (C-20): sc-6207. Western blot analysis of GAIP expression in non-transfected: sc-110760 (A) and human GAIP transfected: sc-110588 (B) 293 whole cell lysates.



GAIP (C-20): sc-6207. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Luo, X., et al. 2001. RGS proteins provide biochemical control of agonist-evoked $[Ca^{2+}]_i$ oscillations. *Mol. Cell* 7: 651-660.
2. Rodríguez-Muñoz, M., et al. 2007. Sumoylated RGS-Rz proteins act as scaffolds for μ -opioid receptors and G-protein complexes in mouse brain. *Neuropsychopharmacology* 32: 842-850.

STORAGE

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



Try **GAIP (B-6): sc-271810** or **GAIP (A-10): sc-365157**, our highly recommended monoclonal alternatives to GAIP (C-20).