

# GIPC (B-12): sc-271822



The Power to Question

## BACKGROUND

GIPC, for GAIP interacting protein at the C-terminus (also designated SEMCAP-1 or synectin), is a PDZ domain containing protein that interacts with RGS-GAIP, a GTPase-activating protein (GAP) for  $G_{\alpha i}$  subunits. GIPC was also identified as TIP-2, a protein that interacts with the viral oncoprotein TAX, which transactivates viral and cellular promoters through interactions with various transcription factors. PDZ domain-containing proteins are primarily localized to cell-cell junctions in epithelial cells and neurons where they coordinate the assembly of multiprotein complexes. GIPC specifically localizes to clusters of vesicles near the plasma membrane and participates in G protein-coupled signaling pathway involved in regulating Clathrin-coated vesicular trafficking. GIPC also associates with membrane bound semaphorin F (M-SemF), which is involved in neuronal axon growth, and it appears to regulate the subcellular distribution of M-SemF in the brain.

## REFERENCES

1. Ranganathan, R. and Ross, E.M. 1997. PDZ domain proteins: scaffolds for signaling complexes. *Curr. Biol.* 7: R770-R773.
2. De Vries, L., et al. 1998. GIPC, a PDZ domain containing protein, interacts specifically with the C-terminus of RGS-GAIP. *Proc. Natl. Acad. Sci. USA* 95: 12340-12345.
3. Rousset, R., et al. 1998. The C-terminus of the HTLV-1 TAX oncoprotein mediates interaction with the PDZ domain of cellular proteins. *Oncogene* 16: 643-654.

## CHROMOSOMAL LOCATION

Genetic locus: GIPC1 (human) mapping to 19p13.12; Gipc1 (mouse) mapping to 8 C2.

## SOURCE

GIPC (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-27 at the N-terminus of GIPC of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GIPC (B-12) is available conjugated to agarose (sc-271822 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271822 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271822 PE), fluorescein (sc-271822 FITC), Alexa Fluor® 488 (sc-271822 AF488), Alexa Fluor® 546 (sc-271822 AF546), Alexa Fluor® 594 (sc-271822 AF594) or Alexa Fluor® 647 (sc-271822 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271822 AF680) or Alexa Fluor® 790 (sc-271822 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271822 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

GIPC (B-12) is recommended for detection of GIPC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

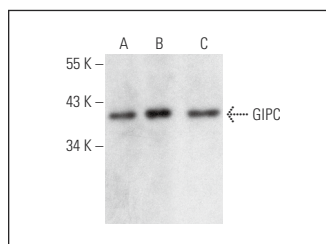
GIPC (B-12) is also recommended for detection of GIPC in additional species, including canine and bovine.

Suitable for use as control antibody for GIPC siRNA (h): sc-35475, GIPC siRNA (m): sc-35476, GIPC shRNA Plasmid (h): sc-35475-SH, GIPC shRNA Plasmid (m): sc-35476-SH, GIPC shRNA (h) Lentiviral Particles: sc-35475-V and GIPC shRNA (m) Lentiviral Particles: sc-35476-V.

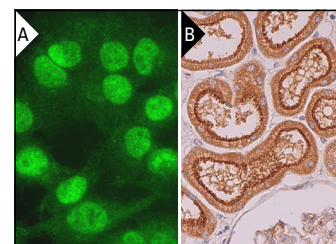
Molecular Weight of GIPC: 40 kDa.

Positive Controls: NRK whole cell lysate: sc-364197, Hep G2 cell lysate: sc-2227 or A-10 cell lysate: sc-3806.

## DATA



GIPC (B-12): sc-271822. Western blot analysis of GIPC expression in Hep G2 (A), NRK (B) and A-10 (C) whole cell lysates.



GIPC (B-12): sc-271822. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and apical membrane staining of cells in tubules (B).

## SELECT PRODUCT CITATIONS

1. Gialluisi, A., et al. 2021. Identification of sixteen novel candidate genes for late onset Parkinson's disease. *Mol. Neurodegener.* 16: 35.
2. Ramonett, A., et al. 2022. Regulation of mitochondrial fission by GIPC-mediated Drp1 retrograde transport. *Mol. Biol. Cell* 33: ar4.
3. Liu, Y., et al. 2022. PlexinA1 activation induced by  $\beta$ 2-AR promotes epithelial-mesenchymal transition through JAK-STAT3 signaling in human gastric cancer cells. *J. Cancer* 13: 2258-2270.
4. Pérez-Jover, I., et al. 2024. Allosteric control of dynamin-related protein 1 through a disordered C-terminal Short Linear Motif. *Nat. Commun.* 15: 52.

## STORAGE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA