SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\gamma 1}$ (P-19): sc-373

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. Each of a very broad range of receptors specifically detects an extracellular stimulus (i.e. a photon, pheromone, odorant, hormone or neurotransmitter), while the effectors (e.g. adenyl cyclase), which act to generate one or more intracellular messengers, are less numerous. 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. Evidence, however, has established an important regulatory role for the $\beta\gamma$ subunits. It is becoming increasingly clear that different G protein complexes expressed in different tissues carry structurally distinct members of the γ as well as the α and β subunits, and that preferential associations between members of subunit families increase G protein functional diversity.

CHROMOSOMAL LOCATION

Genetic locus: GNGT1 (human) mapping to 7q21.3; Gngt1 (mouse) mapping to 6 A1.

SOURCE

$G_{\gamma 1}$ (P-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of $G_{\gamma 1}$ of bovine origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-373 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$G_{\gamma 1}$ (P-19) is recommended for detection of $G_{\gamma 1}$ of broad origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

$G_{\gamma 1}$ (P-19) is also recommended for detection of $G_{\gamma 1}$ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for $G_{\gamma 1}$ siRNA (h): sc-43774, $G_{\gamma 1}$ siRNA (m): sc-41773, $G_{\gamma 1}$ shRNA Plasmid (h): sc-43774-SH, $G_{\gamma 1}$ shRNA Plasmid (m): sc-41773-SH, $G_{\gamma 1}$ shRNA (h) Lentiviral Particles: sc-43774-V and $G_{\gamma 1}$ shRNA (m) Lentiviral Particles: sc-41773-V.

Molecular Weight of $G_{\gamma 1}$: 8 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283 or Jurkat whole cell lysate: sc-2204.

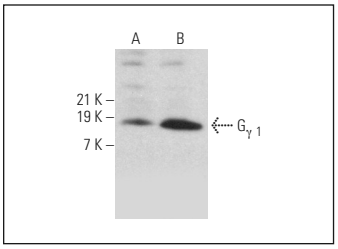
STORAGE

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

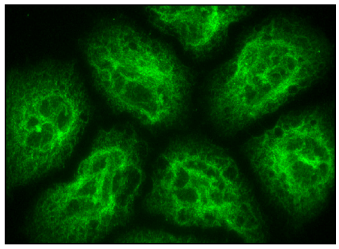
RESEARCH USE

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

DATA



$G_{\gamma 1}$ (P-19): sc-373. Western blot analysis of $G_{\gamma 1}$ expression in MEG-01 (**A**) and Jurkat (**B**) whole cell lysates.



$G_{\gamma 1}$ (P-19): sc-373. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

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2. Seno, K., et al. 2001. Light- and guanosine 5'-3-O-(thio)triphosphate-sensitive localization of a G protein and its effector on detergent-resistant membrane rafts in rod photoreceptor outer segments. J. Biol. Chem. 276: 20813-20816.
3. Obin, M., et al. 2002. Ubiquitylation of the transducin $\beta\gamma$ subunit complex. Regulation by phosducin. J Biol. Chem. 277: 44566-44575.
4. Sokolov, M., et al. 2004. Phosducin facilitates light-driven transducin translocation in rod photoreceptors: evidence from the phosducin knockout mouse. J. Biol. Chem. 279: 19149-19156.
5. Moussaif, M., et al. 2006. Phototransduction in a transgenic mouse model of Nougaret night blindness. J. Neurosci. 26: 6863-6872.
6. Clack, J.W., et al. 2006. Transducin subunit stoichiometry and cellular distribution in rod outer segments. Cell Biol. Int. 30: 829-835.
7. Krispel, C.M., et al. 2007. Phosducin regulates the expression of transducin $\beta\gamma$ subunits in rod photoreceptors and does not contribute to phototransduction adaptation. J. Gen. Physiol. 130: 303-312.
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9. Lobanova, E.S., et al. 2008. Transducin γ-subunit sets expression levels of α- and β-subunits and is crucial for rod viability. J. Neurosci. 28: 3510-3520.