

G α 12 (S-20): sc-409



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 (a photon, pheromone, odorant, hormone or neurotransmitter) while the effectors (i.e., adenylyl 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. Four distinct classes of G α subunits have been identified; these include G α_s , G α_i , G α_q and G $\alpha_{12/13}$. The two members of the fourth class of G α subunit proteins, G α_{12} and G α_{13} , are insensitive to ADP-ribosylation by pertussis toxin, share 67% identity with each other and less than 45% identity with other G α subunits and are widely expressed in a broad range of tissues.

CHROMOSOMAL LOCATION

Genetic locus: GNA12 (human) mapping to 7p22.3; Gna12 (mouse) mapping to 5 G2.

SOURCE

G α_{12} (S-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of G α_{12} of mouse origin.

PRODUCT

Each vial contains 100 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-409 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

G α_{12} (S-20) is recommended for detection of G α_{12} 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), 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).

G α_{12} (S-20) is also recommended for detection of G α_{12} in additional species, including bovine.

Suitable for use as control antibody for G α_{12} siRNA (h): sc-41742, G α_{12} siRNA (m): sc-41743, G α_{12} shRNA Plasmid (h): sc-41742-SH, G α_{12} shRNA Plasmid (m): sc-41743-SH, G α_{12} shRNA (h) Lentiviral Particles: sc-41742-V and G α_{12} shRNA (m) Lentiviral Particles: sc-41743-V.

Molecular Weight of G α_{12} : 45 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

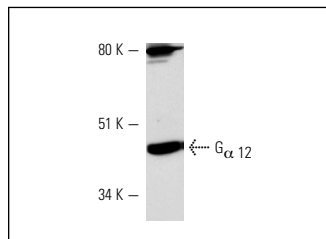
RESEARCH USE

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

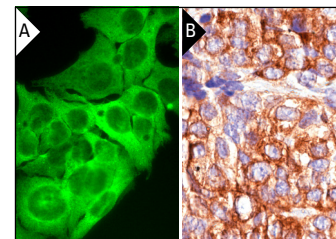
STORAGE

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

DATA



G α_{12} (S-20): sc-409. Western blot analysis of G α_{12} expression in mouse brain extract.



G α_{12} (S-20): sc-409. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded lung tumor showing membrane localization (A).

SELECT PRODUCT CITATIONS

- Jho, E.H., et al. 1997. G α_{12} and G α_{13} mediate differentiation of p19 mouse embryonal carcinoma cells in response to retinoic acid. *J. Biol. Chem.* 272: 24461-24467.
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- Chaveroux, C., et al. 2009. Identification of a novel amino acid response pathway triggering ATF2 phosphorylation in mammals. *Mol. Cell. Biol.* 29: 6515-6526.
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- Yu, W., et al. 2011. Identification of polycystin-1 and G α_{12} binding regions necessary for regulation of apoptosis. *Cell. Signal.* 23: 213-221.
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MONOS
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Try G α_{12} (E-12): sc-515445 or G α_{12} (B-5): sc-515610, our highly recommended monoclonal alternatives to G α_{12} (S-20).