

G_α q/11 (C-19): sc-392

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 (e.g. 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_s, G_i, G_q and G_α 12/13. The G_q class includes G_α 15, G_α 14, G_α 11 and G_α q, two of which, G_α 11 and G_α q, are abundant in brain and lung and present at lower levels in a variety of tissues.

REFERENCES

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2. Simon, M.I., Strathmann, M.P. and Gautam, N. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
3. Cali, J.J., Balcueva, E.A., Rybakina, I. and Robishaw, J.D. 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.
4. McLaughlin, S.K., McKinnon, P.J. and Margolskee, R.F. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. *Nature* 357: 563-569.
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CHROMOSOMAL LOCATION

Genetic locus: GNAQ (human) mapping to 9q21, GNA11 (human) mapping to 19p13.3; Gnaq (mouse) mapping to 19 A, Gna11 (mouse) mapping to 10 C1.

SOURCE

G_α q/11 (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a domain common to G_α 11 of mouse 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-392 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-392 AC, 500 μ g/0.25 ml agarose in 1 ml.

RESEARCH USE

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

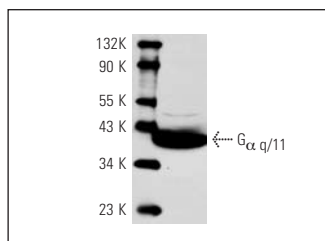
APPLICATIONS

G_α q/11 (C-19) is recommended for detection of G_α q and G_α 11 of mammalian origin by estern 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with G_α 14.

Molecular Weight of G_α q/11: 42 kDa.

Positive Controls: mouse brain extract: sc-2253, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

DATA



G_α q/11 (C-19): sc-392. Western blot analysis of G_α q/11 expression in mouse brain extract.

SELECT PRODUCT CITATIONS

1. Umemori, H., et al. 1997. Activation of the G protein G_{q/11} through tyrosine phosphorylation of the α subunit. *Science* 276: 1878-1881.
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3. Sellers, L.A., et al. 2000. Receptor isoforms mediate opposing proliferative effects through G_{βγ}-activated p38 or Akt pathways. *Mol. Cell. Biol.* 20: 5974-5985.
4. Mellado, M., et al. 2001. Chemokine receptor homo- or heterodimerization activates distinct signaling pathways. *EMBO J.* 20: 2497-2507.
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6. Minamino, T., et al. 2002. MEKK1 is essential for cardiac hypertrophy and dysfunction induced by G_q. *Proc. Natl. Acad. Sci. USA* 99: 3866-3871.
7. Anger, T., et al. 2004. Differential contribution of GTPase activation and effector antagonism to the inhibitory effect of RGS proteins on G_q-mediated signaling *in vivo*. *J. Biol. Chem.* 279: 3906-3915.

STORAGE

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