

G_γ 3 (K-20): sc-375

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. 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.

REFERENCES

- Gautam, N., et al. 1990. G protein diversity is increased by associations with a variety of γ subunits. *Proc. Natl. Acad. Sci. USA* 87: 7973-7977.
- Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.

CHROMOSOMAL LOCATION

Genetic locus: GNG3 (human) mapping to 11q12.3; Gng3 (mouse) mapping to 19 A.

SOURCE

G_γ 3 (K-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of G_γ 3 of bovine 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-375 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

G_γ 3 (K-20) is recommended for detection of G_γ 3 of broad origin by Western blotting, 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).

G_γ 3 (K-20) is also recommended for detection of G_γ 3 in additional species, including equine, canine, bovine and porcine.

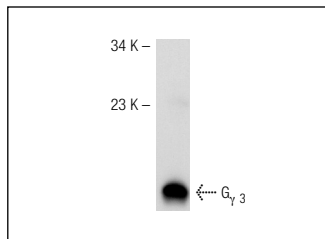
Suitable for use as control antibody for G_γ 3 siRNA (h): sc-41776, G_γ 3 siRNA (m): sc-41777, G_γ 3 shRNA Plasmid (h): sc-41776-SH, G_γ 3 shRNA Plasmid (m): sc-41777-SH, G_γ 3 shRNA Lentiviral Particles (h): sc-41776-V, G_γ 3 siRNA Lentiviral Particles (m): sc-41777-V.

Molecular Weight of G_γ 3: 3-7 kDa.

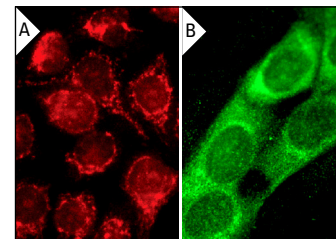
STORAGE

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

DATA



G_γ 3 (K-20): sc-375. Western blot analysis of G_γ 3 expression in mouse brain tissue extract.



G_γ 3 (K-20): sc-375. Immunofluorescence staining of methanol-fixed HeLa cells (A) and SK-N-SH cells (B) showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Kowluru, A., et al. 1997. Glucose activates the carboxyl methylation of γ subunits of trimeric GTP-binding proteins in pancreatic β cells. Modulation *in vivo* by calcium, GTP, and pertussis toxin. *J. Clin. Invest.* 100: 1596-1610.
- Macrez-Leprêtre, N., et al. 1997. Distinct functions of G_q and G₁₁ proteins in coupling α_1 -adrenoreceptors to Ca²⁺ release and Ca²⁺ entry in rat portal vein myocytes. *J. Biol. Chem.* 272: 5261-5268.
- Macrez-Leprêtre, N., et al. 1997. G protein heterotrimer G_{α13/β1/γ3} couples the angiotensin AT_{1A} receptor to increases in cytoplasmic Ca²⁺ in rat portal vein myocytes. *J. Biol. Chem.* 272: 10095-10102.
- Macrez, N., et al. 1997. A $\beta\gamma$ dimer derived from G₁₃ transduces the angiotensin AT₁ receptor signal to stimulation of CA²⁺ channels in rat portal vein myocytes. *J. Biol. Chem.* 272: 23180-23185.
- Yang, L.P., et al. 2007. Role of NF- κ B and MAPKs in light-induced photo-receptor apoptosis. *Invest. Ophthalmol. Vis. Sci.* 48: 4766-4776.
- Win, H.Y. and Acevedo-Duncan, M. 2008. Atypical protein kinase C phosphorylates IKK α in transformed non-malignant and malignant prostate cell survival. *Cancer Lett.* 270: 302-311.
- 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.

RESEARCH USE

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



Try G_γ 3 (C-6): sc-393940, our highly recommended monoclonal alternative to G_γ 3 (K-20).