

# G<sub>γ</sub> 13 (K-17): sc-26782

## 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  $\alpha$ ,  $\beta$  and  $\gamma$  polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their  $\alpha$  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  $\gamma$  as well as the  $\alpha$  and  $\beta$  subunits and that preferential associations between members of subunit families increase G protein functional diversity.

## REFERENCES

- Blatt, C., et al. 1988. Chromosomal localization of genes encoding guanine nucleotide-binding protein subunits in mouse and human. *Proc. Nat. Acad. Sci. USA* 85: 7642-7646.
- Gautam, N., et al. 1990. G protein diversity is increased by associations with a variety of  $\gamma$  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.
- von Weizsäcker, E., et al. 1992. Diversity among the  $\beta$  subunits of heterotrimeric GTP-binding proteins: characterization of a novel  $\beta$  subunit cDNA. *Biochem. Biophys. Res. Commun.* 183: 350-356.
- Kleuss, C., et al. 1992. Different  $\beta$  subunits determine G protein interaction with transmembrane receptors. *Nature* 358: 424-426.
- Blank, J.L., et al. 1992. Activation of cytosolic phosphoinositide phospholipase C by G-protein  $\beta\gamma$  subunits. *J. Biol. Chem.* 267: 23069-23075.
- Hurowitz, E.H., et al. 2000. Genomic characterization of the human heterotrimeric G protein  $\alpha$ ,  $\beta$  and  $\gamma$  subunit genes. *DNA Res.* 7: 111-120.

## CHROMOSOMAL LOCATION

Genetic locus: GNG13 (human) mapping to 16p13.3; Gng13 (mouse) mapping to 17 A3.3.

## SOURCE

G<sub>γ</sub> 13 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of G<sub>γ</sub> 13 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26782 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

G<sub>γ</sub> 13 (K-17) is recommended for detection of G<sub>γ</sub> 13 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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<sub>γ</sub> 13 (K-17) is also recommended for detection of G<sub>γ</sub> 13 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for G<sub>γ</sub> 13 siRNA (h): sc-41786, G<sub>γ</sub> 13 siRNA (m): sc-41787, G<sub>γ</sub> 13 shRNA Plasmid (h): sc-41786-SH, G<sub>γ</sub> 13 shRNA Plasmid (m): sc-41787-SH, G<sub>γ</sub> 13 shRNA (h) Lentiviral Particles: sc-41786-V and G<sub>γ</sub> 13 shRNA (m) Lentiviral Particles: sc-41787-V.

Molecular Weight of G<sub>γ</sub> 13: 8 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Kerr, D.S., et al. 2008. Ric-8B interacts with G<sub>α</sub> olf and G<sub>γ</sub> 13 and co-localizes with G<sub>α</sub> olf, G<sub>β</sub> 1 and G<sub>γ</sub> 13 in the cilia of olfactory sensory neurons. *Mol. Cell. Neurosci.* 38: 341-348.
- Liu, Z., et al. 2012. Identification of new binding partners of the chemosensory signaling protein G<sub>γ</sub> 13 expressed in taste and olfactory sensory cells. *Front. Cell. Neurosci.* 6: 26.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.