

# G<sub>γ</sub> 1 (1F8): sc-517057

## 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. 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

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

## SOURCE

G<sub>γ</sub> 1 (1F8) is a mouse monoclonal antibody raised against amino acids 1-74 representing full length G<sub>γ</sub> 1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

G<sub>γ</sub> 1 (1F8) is recommended for detection of G<sub>γ</sub> 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for G<sub>γ</sub> 1 siRNA (h): sc-43774, G<sub>γ</sub> 1 siRNA (m): sc-41773, G<sub>γ</sub> 1 siRNA (r): sc-270101, G<sub>γ</sub> 1 shRNA Plasmid (h): sc-43774-SH, G<sub>γ</sub> 1 shRNA Plasmid (m): sc-41773-SH, G<sub>γ</sub> 1 shRNA Plasmid (r): sc-270101-SH, G<sub>γ</sub> 1 shRNA (h) Lentiviral Particles: sc-43774-V, G<sub>γ</sub> 1 shRNA (m) Lentiviral Particles: sc-41773-V and G<sub>γ</sub> 1 shRNA (r) Lentiviral Particles: sc-270101-V.

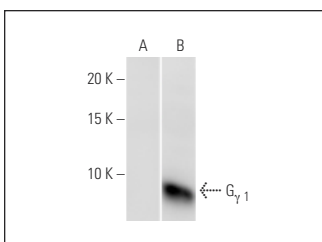
Molecular Weight of G<sub>γ</sub> 1: 8 kDa.

Positive Controls: G<sub>γ</sub> 1 transfected 293T whole cell Lysate.

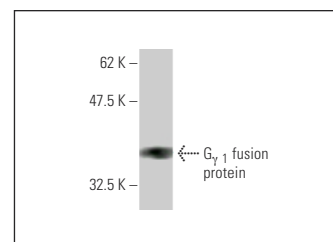
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



G<sub>γ</sub> 1 (1F8): sc-517057. Western blot analysis of G<sub>γ</sub> 1 expression in non-transfected (A) and G<sub>γ</sub> 1 transfected (B) 293T whole cell lysates.



G<sub>γ</sub> 1 (1F8): sc-517057. Western blot analysis of human recombinant G<sub>γ</sub> 1 fusion protein.

## 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) for detailed protocols and support products.