

# G<sub>γ</sub> 5 (FL-68): sc-28590

## 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

1. Blatt, C., et al. 1988. Chromosomal localization of genes encoding guanine nucleotide-binding protein subunits in mouse and human. *Proc. Natl. Acad. Sci. USA* 85: 7642-7646.
2. 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.
3. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
4. 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.
5. Kleuss, C., et al. 1992. Different  $\beta$  subunits determine G protein interaction with transmembrane receptors. *Nature* 358: 424-426.
6. Blank, J.L., et al. 1992. Activation of cytosolic phosphoinositide phospholipase C by G protein  $\beta\gamma$  subunits. *J. Biol. Chem.* 267: 23069-23075.
7. 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: GNG5 (human) mapping to 1p22.3; Gng5 (mouse) mapping to 3 H2.

## SOURCE

G<sub>γ</sub> 5 (FL-68) is a rabbit polyclonal antibody raised against amino acids 1-68 representing full length G<sub>γ</sub> 5 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.

## 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> 5 (FL-68) is recommended for detection of G<sub>γ</sub> 5 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)], 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); partially cross reactive with other G $\gamma$  proteins.

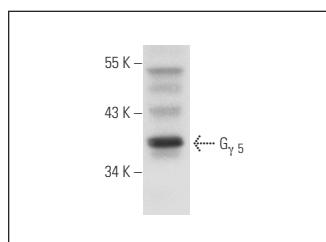
G<sub>γ</sub> 5 (FL-68) is also recommended for detection of G<sub>γ</sub> 5 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for G<sub>γ</sub> 5 siRNA (h): sc-41778, G<sub>γ</sub> 5 siRNA (m): sc-41779, G<sub>γ</sub> 5 shRNA Plasmid (h): sc-41778-SH, G<sub>γ</sub> 5 shRNA Plasmid (m): sc-41779-SH, G<sub>γ</sub> 5 shRNA (h) Lentiviral Particles: sc-41778-V and G<sub>γ</sub> 5 shRNA (m) Lentiviral Particles: sc-41779-V.

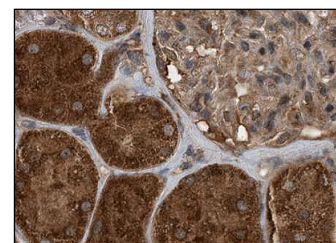
Molecular Weight of G<sub>γ</sub> 5: 8 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or JAR cell lysate: sc-2276.

## DATA



G<sub>γ</sub> 5 (FL-68): sc-28590. Western blot analysis of G<sub>γ</sub> 5 expression in JAR whole cell lysate.



G<sub>γ</sub> 5 (FL-68): sc-28590. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## RESEARCH USE

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

## PROTOCOLS

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Try **G<sub>γ</sub> 5 (3B8): sc-517161**, our highly recommended monoclonal alternative to G<sub>γ</sub> 5 (FL-68).