

# G<sub>β</sub> (H-300): sc-25413

## 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. The G protein  $\beta$  subunits are important regulators of G protein  $\alpha$  subunits as well as of certain signal transduction receptors and effectors. In mammals, there are five different members of the  $\beta$  subunit family

## 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: GNB4 (human) mapping to 3q26.32; Gnb4 (mouse) mapping to 3 B.

## SOURCE

G<sub>β</sub> (H-300) is an affinity purified rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of G<sub>β2</sub> 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>β</sub> (H-300) is recommended for detection of G<sub>β1-4</sub> and, to a lesser extent, G<sub>β5</sub> 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

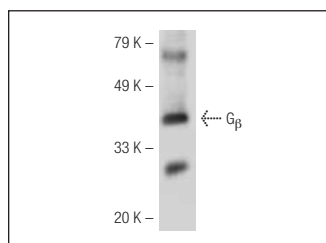
Molecular Weight of G<sub>β</sub>: 36 kDa.

Positive Controls: mouse brain extract : sc-2253, Jurkat whole cell lysate: sc-2204 and normal mouse intestine.

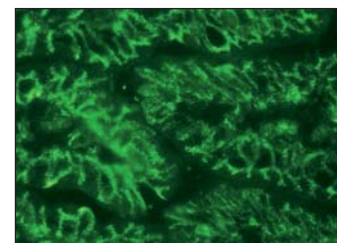
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



G<sub>β</sub> (H-300): sc-25413. Western blot analysis of G<sub>β</sub> expression in mouse brain tissue extract.



G<sub>β</sub> (H-300): sc-25413. Immunofluorescence staining of normal mouse intestine frozen section showing membrane staining.

## 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.