

# G<sub>β</sub> 3 (N-19): sc-25019

## 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. Each subunit of the G protein complex is encoded by a member of one of three corresponding gene families ( $\alpha$ ,  $\beta$ ,  $\gamma$ ). In mammals, there are five different members of the  $\beta$ -subunit family. The  $\beta$  subunits of the G proteins are important regulators of G protein subunits as well as of certain signal transduction receptors and effectors. In contrast to G<sub>β</sub> 1-4, which are at least 83% homologous, G<sub>β</sub> 5 is only 50% homologous to the other  $\beta$  subunits. Human G<sub>β</sub> 5 is expressed at high levels in brain, pancreas, kidney, and heart.

## REFERENCES

1. Blatt, C., et al. 1988. Chromosomal localization of genes encoding guanine nucleotide-binding protein subunits in mouse and human. *Proc. Nat. Acad. Sci.* 85: 7642-7646.
2. Modi, W.S., et al. 1989. Chromosomal localization of the gene encoding a third form of the  $\beta$  subunit of GTP-binding regulatory proteins. (Abstract) *Cytogenet. Cell Genet.* 51: 1046.
3. Levine, M.A., et al. 1990. Chromosomal localization of the genes encoding two forms of the G-protein  $\beta$  polypeptide,  $\beta$ -1 and  $\beta$ -3, in man. *Genomics* 8: 380-386.
4. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
5. 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.
6. Kleuss, C., et al. 1992. Different  $\beta$  subunits determine G protein interaction with transmembrane receptors. *Nature* 358: 424-426.

## CHROMOSOMAL LOCATION

Genetic locus: GNB3 (human) mapping to 12p13.31; Gnb3 (mouse) mapping to 6 F2.

## SOURCE

G<sub>β</sub> 3 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of G<sub>β</sub> 3 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-25019 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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> 3 (N-19) is recommended for detection of G<sub>β</sub> 3 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).

G<sub>β</sub> 3 (N-19) is also recommended for detection of G<sub>β</sub> 3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for G<sub>β</sub> 3 siRNA (h): sc-41766, G<sub>β</sub> 3 siRNA (m): sc-41767, G<sub>β</sub> 3 shRNA Plasmid (h): sc-41766-SH, G<sub>β</sub> 3 shRNA Plasmid (m): sc-41767-SH, G<sub>β</sub> 3 shRNA (h) Lentiviral Particles: sc-41766-V and G<sub>β</sub> 3 shRNA (m) Lentiviral Particles: sc-41767-V.

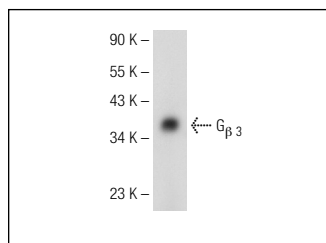
Molecular Weight of G<sub>β</sub> 3: 36 kDa.

Positive Controls: Y79 cell lysate: sc-2240, Hep G2 cell lysate: sc-2227 or Y79 nuclear extract: sc-2126.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



G<sub>β</sub> 3 (N-19): sc-25019. Western blot analysis of G<sub>β</sub> 3 expression in Y79 whole cell lysate.

## RESEARCH USE

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

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Try G<sub>β</sub> 3 (G-5): sc-393908 or G<sub>β</sub> 3 (Q-Y5): sc-81904, our highly recommended monoclonal alternatives to G<sub>β</sub> 3 (N-19).