

# G<sub>β</sub> 5 (N-20): sc-25025

## 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. Both a long and a short form have been described for G<sub>β</sub> 5, which is also known as transducin  $\beta$ 5.

## 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. 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.

## CHROMOSOMAL LOCATION

Genetic locus: GNB5 (human) mapping to 15q21.2; Gnb5 (mouse) mapping to 9 D.

## SOURCE

G<sub>β</sub> 5 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of G<sub>β</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.

Blocking peptide available for competition studies, sc-25025 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

G<sub>β</sub> 5 (N-20) is recommended for detection of G<sub>β</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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

G<sub>β</sub> 5 (N-20) is also recommended for detection of G<sub>β</sub> 5 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for G<sub>β</sub> 5 siRNA (h): sc-41770, G<sub>β</sub> 5 siRNA (m): sc-41771, G<sub>β</sub> 5 shRNA Plasmid (h): sc-41770-SH, G<sub>β</sub> 5 shRNA Plasmid (m): sc-41771-SH, G<sub>β</sub> 5 shRNA (h) Lentiviral Particles: sc-41770-V and G<sub>β</sub> 5 shRNA (m) Lentiviral Particles: sc-41771-V.

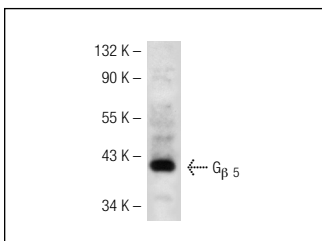
Molecular Weight of G<sub>β</sub> 5: 39 kDa.

Positive Controls: mouse brain extract: sc-2253.

## 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> 5 (N-20): sc-25025. Western blot analysis of G<sub>β</sub> 5 expression in mouse brain tissue extract.

## STORAGE

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

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Try G<sub>β</sub> 5 (C-6): sc-515379 or G<sub>β</sub> 5 (F-5): sc-365758, our highly recommended monoclonal alternatives to G<sub>β</sub> 5 (N-20).