

G β 1 (3): sc-136307



The Power to Question

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 (α , β , γ). In mammals, there are five different members of the β -subunit family. The β subunits of the G proteins are important regulators of G protein α subunits as well as of certain signal transduction receptors and effectors. In contrast to G β 1-4, which are at least 83% homologous, G β 5 is only 50% homologous to the other β subunits. Human G β 5 is expressed at high levels in brain, pancreas, kidney, and heart.

REFERENCES

- 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.
- Gautam, N., et al. 1990. G protein diversity is increased by associations with a variety of γ subunits. Proc. Natl. Acad. Sci. USA 87: 7973-7977.

CHROMOSOMAL LOCATION

Genetic locus: GNB1 (human) mapping to 1p36.33; Gnb1 (mouse) mapping to 4 E2.

SOURCE

G β 1 (3) is a mouse monoclonal antibody raised against amino acids 130-145 of G β 1 of bovine origin.

PRODUCT

Each vial contains 200 μ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

G β 1 (3) is recommended for detection of G β 1 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); may cross-react with G β 2 and G β 4.

Suitable for use as control antibody for G β 1 siRNA (h): sc-41762, G β 1 siRNA (m): sc-41763, G β 1 shRNA Plasmid (h): sc-41762-SH, G β 1 shRNA Plasmid (m): sc-41763-SH, G β 1 shRNA (h) Lentiviral Particles: sc-41762-V and G β 1 shRNA (m) Lentiviral Particles: sc-41763-V.

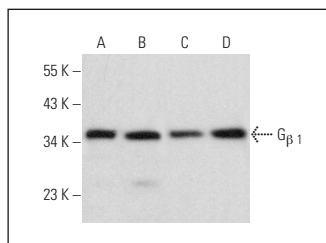
Molecular Weight of G β 1: 36 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, HeLa whole cell lysate: sc-2200 or Neuro-2A whole cell lysate: sc-364185.

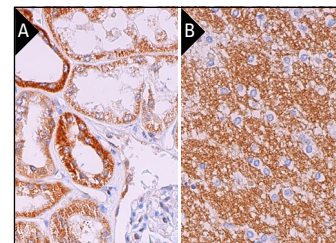
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



G β 1 (3): sc-136307. Western blot analysis of G β 1 expression in HeLa (A), T98G (B), Neuro-2A (C) and EOC 20 (D) whole cell lysates.



G β 1 (3): sc-136307. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing neuropil staining (B).

SELECT PRODUCT CITATIONS

- Dela Paz, N.G. and Frangos, J.A. 2019. Rapid flow-induced activation of G α q/11 is independent of Piezo1 activation. Am. J. Physiol., Cell Physiol. E-published.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.