

G_β 1 (F-2): sc-515764

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

1. Blatt, C., et al. 1988. Chromosomal localization of genes encoding guanine nucleotide-binding protein subunits in mouse and human. *Proc. Nat. Acad. Sci. USA* 85: 7642-7646.
2. 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.
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 β subunits of heterotrimeric GTP-binding proteins: characterization of a novel β -subunit cDNA. *Biochem. Biophys. Res. Commun.* 183: 350-356.
5. Kleuss, C., et al. 1992. Different β 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 α , β and γ subunit genes. *DNA Res.* 7: 111-120.

CHROMOSOMAL LOCATION

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

SOURCE

G_β 1 (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 189-201 within an internal region of G_β 1 of human 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.

STORAGE

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

APPLICATIONS

G_β 1 (F-2) is recommended for detection of G_β 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

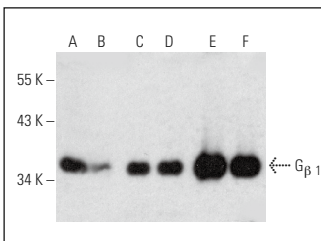
Molecular Weight of G_β 1: 36 kDa.

Positive Controls: NCI-H226 whole cell lysate: sc-364256, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

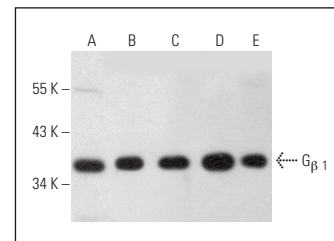
RECOMMENDED SUPPORT REAGENTS

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.

DATA



G_β 1 (F-2): sc-515764. Western blot analysis of G_β 1 expression in Sol8 (A), AMJ2-C8 (B), RPE-J (C) and L8 (D) whole cell lysates and mouse brain (E) and rat brain (F) tissue extracts.



G_β 1 (F-2): sc-515764. Western blot analysis of G_β 1 expression in HeLa (A), Jurkat (B) and NCI-H226 (C) whole cell lysates and human hippocampus (D) and human eye (E) tissue extracts.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2022. Paeoniflorin-6'-O-benzene sulfonate suppresses fibroblast-like synoviocytes proliferation and migration in rheumatoid arthritis through regulating GRK2-G $\beta\gamma$ interaction. *Exp. Ther. Med.* 24: 523.

RESEARCH USE

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