

# G<sub>β</sub> 4 (F-3): sc-374383

## 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

1. 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.
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. Kleuss, C., et al. 1992. Different  $\beta$  subunits determine G protein interaction with transmembrane receptors. *Nature* 358: 424-426.

## CHROMOSOMAL LOCATION

Genetic locus: GNB4 (human) mapping to 3q26.33; Gnb4 (mouse) mapping to 3 A3.

## SOURCE

G<sub>β</sub> 4 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 197-225 within an internal region of transducin  $\beta$ 4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

G<sub>β</sub> 4 (F-3) is available conjugated to agarose (sc-374383 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374383 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374383 PE), fluorescein (sc-374383 FITC), Alexa Fluor® 488 (sc-374383 AF488), Alexa Fluor® 546 (sc-374383 AF546), Alexa Fluor® 594 (sc-374383 AF594) or Alexa Fluor® 647 (sc-374383 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374383 AF680) or Alexa Fluor® 790 (sc-374383 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374383 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

G<sub>β</sub> 4 (F-3) is recommended for detection of G<sub>β</sub> 4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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> 4 (F-3) is also recommended for detection of G<sub>β</sub> 4 in additional species, including equine and porcine.

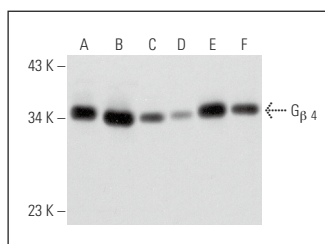
Suitable for use as control antibody for G<sub>β</sub> 4 siRNA (h): sc-41768, G<sub>β</sub> 4 siRNA (m): sc-41769, G<sub>β</sub> 4 shRNA Plasmid (h): sc-41768-SH, G<sub>β</sub> 4 shRNA Plasmid (m): sc-41769-SH, G<sub>β</sub> 4 shRNA (h) Lentiviral Particles: sc-41768-V and G<sub>β</sub> 4 shRNA (m) Lentiviral Particles: sc-41769-V.

Positive Controls: Ramos cell lysate: sc-2216, AML-193 whole cell lysate: sc-364182 or AMJ2-C8 whole cell lysate: sc-364366.

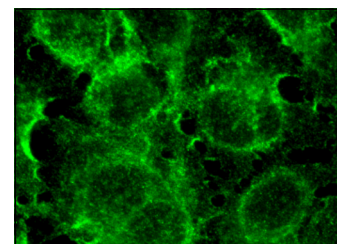
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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<sub>β</sub> 4 (F-3): sc-374383. Western blot analysis of G<sub>β</sub> 4 expression in Ramos (A), AML-193 (B), AMJ2-C8 (C), BC<sub>3</sub>H1 (D), NRK (E) and RPE-J (F) whole cell lysates.



G<sub>β</sub> 4 (F-3): sc-374383. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## 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.

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