SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\beta\ 4}$ (F-3): sc-374383

SANTA CRUZ BIOTECHNOLOGY

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. adenyl cyclase), which act to generate one or more intracellular messengers, are less numerous. In mammals, G protein α, β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α 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 β subunits are important regulators of G protein α subunits as well as of certain signal transduction receptors and effectors. In mammals, there are five different members of the β 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 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. Kleuss, C., et al. 1992. Different β 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

$G_{\beta\ 4}$ (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 197-225 within an internal region of transducin β4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

$G_{\beta\ 4}$ (F-3) is available conjugated to agarose (sc-374383 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374383 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

$G_{\beta\ 4}$ (F-3) is recommended for detection of $G_{\beta\ 4}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

$G_{\beta\ 4}$ (F-3) is also recommended for detection of $G_{\beta\ 4}$ in additional species, including equine and porcine.

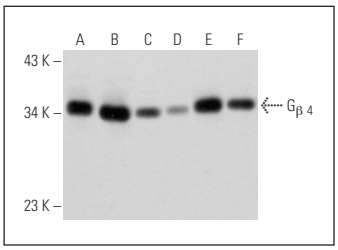
Suitable for use as control antibody for $G_{\beta\ 4}$ siRNA (h): sc-41768, $G_{\beta\ 4}$ siRNA (m): sc-41769, $G_{\beta\ 4}$ shRNA Plasmid (h): sc-41768-SH, $G_{\beta\ 4}$ shRNA Plasmid (m): sc-41769-SH, $G_{\beta\ 4}$ shRNA (h) Lentiviral Particles: sc-41768-V and $G_{\beta\ 4}$ shRNA (m) Lentiviral 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.

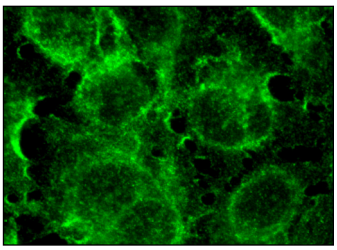
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



$G_{\beta\ 4}$ (F-3): sc-374383. Western blot analysis of $G_{\beta\ 4}$ expression in Ramos (**A**), AML-193 (**B**), AMJ2-C8 (**C**), BC_3H1 (**D**), NRK (**E**) and RPE-J (**F**) whole cell lysates.



$G_{\beta\ 4}$ (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.