

# G<sub>β</sub> (A-4): sc-166250

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

## REFERENCES

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- Modi, W.S., et al. 1989. Chromosomal localization of the gene encoding a third form of the  $\beta$  subunit of GTP-binding regulatory proteins. *Cytogenet. Cell Genet.* 51: 1046.
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- Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
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- Blank, J.L., et al. 1992. Activation of cytosolic phosphoinositide phospholipase C by G protein  $\beta\gamma$  subunits. *J. Biol. Chem.* 267: 23069-23075.
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## SOURCE

G <sub>$\beta$</sub>  (A-4) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of G <sub>$\beta$  2</sub> 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.

## STORAGE

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

## APPLICATIONS

G <sub>$\beta$</sub>  (A-4) is recommended for detection of G <sub>$\beta$  1</sub>, G <sub>$\beta$  2</sub>, G <sub>$\beta$  3</sub> and G <sub>$\beta$  4</sub> 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).

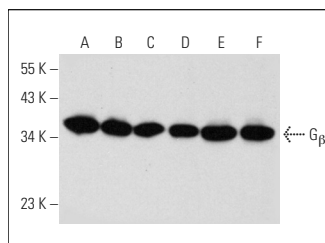
Molecular Weight of G <sub>$\beta$</sub> : 36 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, G <sub>$\beta$  4</sub> (h): 293T Lysate: sc-110843 or HeLa whole cell lysate: sc-2200.

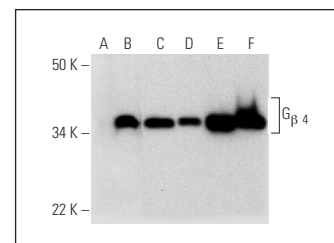
## RECOMMENDED SUPPORT REAGENTS

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>$\beta$</sub>  (A-4): sc-166250. Western blot analysis of G <sub>$\beta$</sub>  expression in U-251-MG (A), ARPE-19 (B), NIH/3T3 (C), AMJ2-C8 (D), C6 (E) and NRK (F) whole cell lysates.



G <sub>$\beta$</sub>  (A-4): sc-166250. Western blot analysis of G <sub>$\beta$  4</sub> expression in non-transfected 293T: sc-117752 (A), human G <sub>$\beta$  4</sub> transfected 293T: sc-110843 (B), HeLa (C) and Jurkat (D) whole cell lysates and rat brain (E) and human hippocampus (F) tissue extracts.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.