SANTA CRUZ BIOTECHNOLOGY, INC.

G_β (M-14): sc-261

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 (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. It is becoming increasingly clear that different G protein complexes expressed in different tissues carry structurally distinct members of the γ as well as the α and β subunits and that preferential associations between members of subunit families increase G protein functional diversity.

SOURCE

G_β (M-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a conserved domain at the N-terminus of $G_{\beta\ 1}$ of bovine origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-261 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-261 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

G_β (M-14) is recommended for detection of $G_{\beta1}$, $G_{\beta2}$, $G_{\beta3}$ and $G_{\beta4}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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_β (M-14) is also recommended for detection of $G_{\beta1}$, $G_{\beta2}$, $G_{\beta3}$ and $G_{\beta4}$ in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of G_β: 36 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, rat brain extract: sc-2392 or Y79 cell lysate: sc-2240.

STORAGE

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

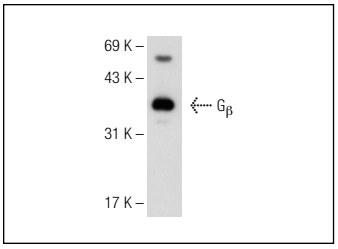
PROTOCOLS

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

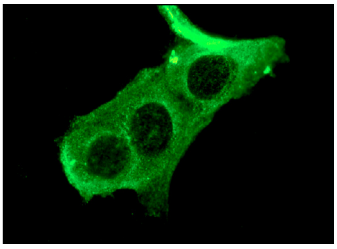
RESEARCH USE

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

DATA



G_β (M-14): sc-261. Western blot analysis of G_β expression in Y79 whole cell lysate.



G_β (M-14): sc-261. Immunofluorescence staining of methanol-fixed SK-N-SH cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

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2. Moussaif, M., et al. 2006. Phototransduction in a transgenic mouse model of Nougaret night blindness. J. Neurosci. 26: 6863-6872.
3. Zhang, Q. and Wu, W,X. 2007. Separate and synergistic effect of progesterone and estradiol on induction of annexin 2 and its interaction protein p11 in pregnant sheep myometrium. J. Mol. Endocrinol. 38: 441-454.
4. Ghosh, P., et al. 2008. Activation of Galphai3 triggers cell migration via regulation of GIV. J. Cell Biol. 182: 381-393.
5. Stang, S.L., et al. 2009. A proapoptotic signaling pathway involving RasGRP, Erk, and Bim in B cells. Exp. Hematol. 37: 122-134.
6. Garcia-Marcos, M., et al. 2010. A structural determinant that renders $G_{\alpha i}$ sensitive to activation by GIV/girdin is required to promote cell migration. J. Biol. Chem. 285: 12765-12777.
7. Dunn, E., et al. 2010. Prenatal synthetic glucocorticoid exposure alters hypothalamic-pituitary-adrenal regulation and pregnancy outcomes in mature female guinea pigs. J. Physiol. 588: 887-899.
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9. Garcia-Marcos, M., et al. 2012. Functional characterization of the guanine nucleotide exchange factor (GEF) motif of GIV protein reveals a threshold effect in signaling. Proc. Natl. Acad. Sci. USA 109: 1961-1966.