SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\beta 3}$ (C-16): sc-381

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

CHROMOSOMAL LOCATION

Genetic locus: GNB3 (human) mapping to 12p13.31; Gnb3 (mouse) mapping to 6 F2.

SOURCE

$G_{\beta 3}$ (C-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a divergent domain in the N-terminus of $G_{\beta 3}$ of human 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-381 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$G_{\beta 3}$ (C-16) is recommended for detection of $G_{\beta 3}$ 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

$G_{\beta 3}$ (C-16) is also recommended for detection of $G_{\beta 3}$ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for $G_{\beta 3}$ siRNA (h): sc-41766, $G_{\beta 3}$ siRNA (m): sc-41767, $G_{\beta 3}$ shRNA Plasmid (h): sc-41766-SH, $G_{\beta 3}$ shRNA Plasmid (m): sc-41767-SH, $G_{\beta 3}$ shRNA (h) Lentiviral Particles: sc-41766-V and $G_{\beta 3}$ shRNA (m) Lentiviral Particles: sc-41767-V.

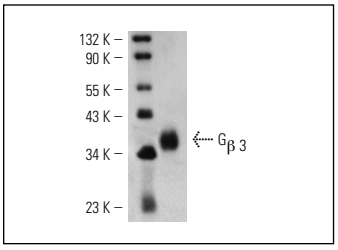
Molecular Weight of $G_{\beta 3}$: 36 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Y79 cell lysate: sc-2240 or Y79 nuclear extract: sc-2126.

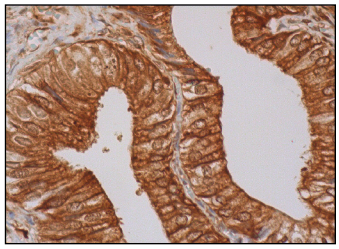
STORAGE

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

DATA



$G_{\beta 3}$ (C-16): sc-381. Western blot analysis of human recombinant $G_{\beta 3}$.



$G_{\beta 3}$ (C-16): sc-381. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic, membrane and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Macrez, N., et al. 1999. Specific $G_{\alpha 11\beta 3\gamma 5}$ protein involvement in endothelin receptor-induced phosphatidylinositol hydrolysis and Ca^{2+} release in rat portal vein myocytes. Mol. Pharmacol. 55: 684-692.
2. Rossler, P., et al. 2000. G protein $\beta\gamma$ complexes in circumvallate taste cells involved in bitter transduction. Chem. Senses 25: 413-421.
3. Hirano, M., et al. 2001. Transcriptional up-regulation of $p27^{Kip1}$ during contact-induced growth arrest in vascular endothelial cells. Exp. Cell Res. 271: 356-367.
4. Brennan, P., et al. 2002. Phosphatidylinositol 3-kinase is essential for the proliferation of lymphoblastoid cells. Oncogene 21: 1263-1271.
5. Wolfe, J.T., et al. 2003. T type calcium channel regulation by specific G protein $\beta\gamma$ subunits. Nature 424: 209-213.
6. Lobanova, E.S., et al. 2008. Transducin γ-subunit sets expression levels of α- and β-subunits and is crucial for rod viability. J. Neurosci. 28: 3510-3520.
7. Xu, Y., et al. 2012. mGluR6 deletion renders the TRPM1 channel in retina inactive. J. Neurophysiol. 107: 948-957.

RESEARCH USE

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

PROTOCOLS

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