SANTA CRUZ BIOTECHNOLOGY, INC.

G_β (T-20): sc-378

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 (T-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of G_β of mouse 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-378 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

G_β (T-20) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

G_β (T-20) 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, Y79 cell lysate: sc-2240 or HeLa whole cell lysate: sc-2200.

STORAGE

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

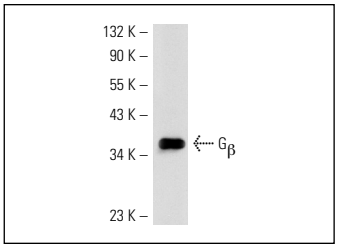
PROTOCOLS

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

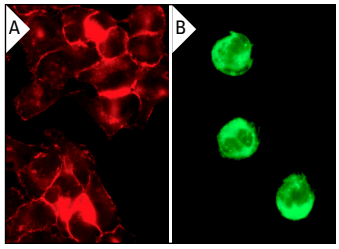
RESEARCH USE

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

DATA



G_β (T-20): sc-378. Western blot analysis of G_β expression in HeLa whole cell lysate.



G_β (T-20): sc-378. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunofluorescence staining of methanol-fixed Jurkat cells showing cytoplasmic and membrane staining (**B**).

SELECT PRODUCT CITATIONS

1. Langhans-Rajasekaran, S.A., et al. 1995. Activation of Tsk and Btk tyrosine kinases by G protein $\beta\gamma$ subunits. Proc. Natl. Acad. Sci. USA 92: 8601-8605.
2. Diel, D.G., et al. 2010. A novel inhibitor of the NFkB signaling pathway encoded by the parapoxvirus orf virus. J. Virol. 84: 3962-3973.
3. Zumaquero, E., et al. 2010. Exosomes from human lymphoblastoid B cells express enzymatically active CD38 that is associated with signaling complexes containing CD81, Hsc-70 and Lyn. Exp. Cell Res. 316: 2692-2706.
4. Ahmed, S.M., et al. 2010. G protein $\beta\gamma$ subunits regulate cell adhesion through Rap1a and its effector Radil. J. Biol. Chem. 285: 6538-6551.
5. Hippe, H.J., et al. 2011. Nucleoside diphosphate kinase B is required for the formation of heterotrimeric G protein containing caveolae. Naunyn Schmiedebergs Arch. Pharmacol. 384: 461-472.
6. Zalduegui, A., et al. 2011. Levels of Gsa(short and long), Ga(olf) and G (common) subunits, and calcium-sensitive adenylyl cyclase isoforms (1, 5/6, 8) in post-mortem human brain caudate and cortical membranes: comparison with rat brain membranes and potential stoichiometric relationships. Neurochem. Int. 58: 180-189.
7. Brejchová, J., et al. 2011. Fluorescence spectroscopy studies of HEK293 cells expressing DOR-Gi1α fusion protein; the effect of cholesterol depletion. Biochim. Biophys. Acta 1808: 2819-2829.
8. Dezelak, M. and Bavec, A. 2012. Glucagon like-peptide-1 receptor is covalently modified by endogenous mono-ADP-ribosyltransferase. Mol. Biol. Rep. 39: 4375-4381.