SANTA CRUZ BIOTECHNOLOGY, INC.

GGTase-IIβ (B-8): sc-365926

BACKGROUND

Eukaryotic cells contain 3 distinct prenyltransferases that catalyze the attachment of a thioether-linked 15-carbon farnesyl group or 20-carbon geranylgeranyl group to C-terminal cysteine residues. Geranylgeranyltransferase type I (GGTase-I, PGGTase-I) catalyzes the nucleophilic substitution reaction between geranylgeranyl diphosphate (GGPP) and a protein-derived thiol to form the thioether linkage. The candidate protein contains a C-terminal CAAX motif in which "A" is an aliphatic amino acid and "X" is leucine. Geranylgeranylation is necessary for the TGFβ1 signaling pathway, which involves phosphatidylcholine-specific phospholipase and a protein kinase C. Human GGTase-I contains an α subunit and a β subunit. Geranylgeranyltransferase type II (GGTase-II) is a heterodimer that catalyzes the transfer of two 20-carbon geranylgeranyl groups from geranylgeranyl pyrophosphate onto C-terminal cysteine residues of Rab GTPases, which is required for the activity of Rab proteins. GGTase-II also contains an α subunit and a β subunit.

REFERENCES

1. Schafer, W.R., et al. 1992. Protein prenylation: genes, enzymes, targets, and functions. Annu. Rev. Genet. 26: 209-237.
2. van Bokhoven, H., et al. 1996. cDNA cloning and chromosomal localization of the genes encoding the α- and β-subunits of human Rab geranylgeranyl transferase: the 3' end of the α-subunit gene overlaps with the transglutaminase 1 gene promoter. Genomics 38: 133-140.
3. Online Mendelian Inheritance in Man, OMIM™. 1997. Johns Hopkins University, Baltimore, MD. MIM Number: 602031. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Desnoyers, L., et al. 1998. Single prenyl-binding site on protein prenyl transferases. Proc. Natl. Acad. Sci. USA 95: 12266-12270.

CHROMOSOMAL LOCATION

Genetic locus: RABGGTB (human) mapping to 1p31.1; Rabggtb (mouse) mapping to 3 H3.

SOURCE

GGTase-IIβ (B-8) is a mouse monoclonal antibody raised against amino acids 139-331 mapping at the C-terminus of GGTase-IIβ 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.

GGTase-IIβ (B-8) is available conjugated to agarose (sc-365926 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365926 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365926 PE), fluorescein (sc-365926 FITC), Alexa Fluor® 488 (sc-365926 AF488), Alexa Fluor® 546 (sc-365926 AF546), Alexa Fluor® 594 (sc-365926 AF594) or Alexa Fluor® 647 (sc-365926 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365926 AF680) or Alexa Fluor® 790 (sc-365926 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GGTase-IIβ (B-8) is recommended for detection of GGTase-IIβ 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), 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).

Suitable for use as control antibody for GGTase-IIβ siRNA (h): sc-45437, GGTase-IIβ siRNA (m): sc-45438, GGTase-IIβ shRNA Plasmid (h): sc-45437-SH, GGTase-IIβ shRNA Plasmid (m): sc-45438-SH, GGTase-IIβ shRNA (h) Lentiviral Particles: sc-45437-V and GGTase-IIβ shRNA (m) Lentiviral Particles: sc-45438-V.

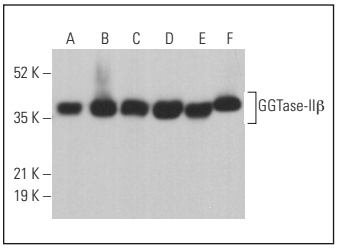
Molecular Weight of GGTase-IIβ: 37 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or SH-SY5Y whole cell lysate: sc-3812.

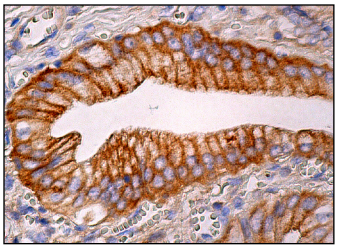
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GGTase-IIβ (B-8): sc-365926. Western blot analysis of GGTase-IIβ expression in SH-SY5Y (**A**), Hep G2 (**B**), K-562 (**C**), MOLT-4 (**D**), A549 (**E**) and Caco-2 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



GGTase-IIβ (B-8): sc-365926. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells.

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.