SANTA CRUZ BIOTECHNOLOGY, INC.

GGTase-Iβ (H-3): sc-376655

BACKGROUND

Eukaryotic cells contain three 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 TGF-β1 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 ssubunit.

CHROMOSOMAL LOCATION

Genetic locus: PGGT1B (human) mapping to 5q22.3; Pggt1b (mouse) mapping to 18 C.

SOURCE

GGTase-Iβ (H-3) is a mouse monoclonal antibody raised against amino acids 1-220 mapping at the N-terminus of GGTase-Iβ 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.

STORAGE

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

APPLICATIONS

GGTase-Iβ (H-3) is recommended for detection of GGTase-Iβ 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GGTase-Iβ (H-3) is also recommended for detection of GGTase-Iβ in additional species, including equine.

Suitable for use as control antibody for GGTase-Iβ siRNA (h): sc-40882, GGTase-Iβ siRNA (m): sc-40883, GGTase-Iβ siRNA (r): sc-77357, GGTase-Iβ shRNA Plasmid (h): sc-40882-SH, GGTase-Iβ shRNA Plasmid (m): sc-40883-SH, GGTase-Iβ shRNA Plasmid (r): sc-77357-SH, GGTase-Iβ shRNA (h) Lentiviral Particles: sc-40882-V, GGTase-Iβ shRNA (m) Lentiviral Particles: sc-40883-V and GGTase-Iβ shRNA (r) Lentiviral Particles: sc-77357-V.

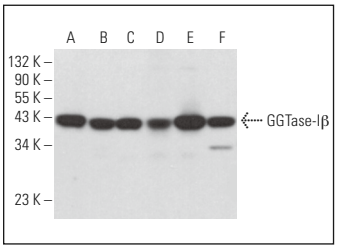
Molecular Weight of GGTase-Iβ: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, PC-12 cell lysate: sc-2250 or HL-60 whole cell lysate: sc-2209.

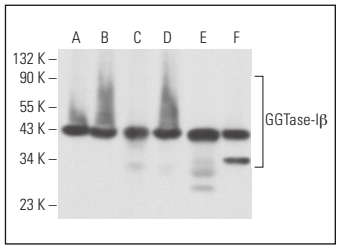
RECOMMENDED SUPPORT REAGENTS

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.

DATA



GGTase-Iβ (H-3): sc-376655. Western blot analysis of GGTase-Iβ expression in 3T3-L1 (**A**), RAW 264.7 (**B**), WEHI-231 (**C**), Ramos (**D**), NAMALWA (**E**) and Sol8 (**F**) whole cell lysates.



GGTase-Iβ (H-3): sc-376655. Western blot analysis of GGTase-Iβ expression in HeLa (**A**), RT-4 (**B**), HL-60 (**C**), NIH/3T3 (**D**), PC-12 (**E**) and A-10 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, L.W., et al. 2019. Epstein-Barr virus subverts mevalonate and fatty acid pathways to promote infected B-cell proliferation and survival. PLoS Pathog. 15: e1008030.
2. Larson-Casey, J.L., et al. 2019. Increased flux through the mevalonate pathway mediates fibrotic repair without injury. J. Clin. Invest. 129: 4962-4978.
3. Jeong, A., et al. 2021. Protein farnesylation is upregulated in Alzheimer's human brains and neuron-specific suppression of farnesyltransferase mitigates pathogenic processes in Alzheimer's model mice. Acta Neuropathol. Commun. 9: 129.

RESEARCH USE

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

PROTOCOLS

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