SANTA CRUZ BIOTECHNOLOGY, INC.

GLYATL1 (B-12): sc-515030

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GLYATL1 (glycine N-acyltransferase-like protein 1), also known as GNAT or acyl-CoA:glycine N-acyltransferase-like protein 1, is a 302 amino acid mitochondrial acyltransferase that transfers the acyl group to the N-terminus of glycine. GLYATL1 can also conjugate a multitude of substrates to form a variety of N-acylglycines. A member of the glycine N-acyltransferase family, GLYATL1 exists as two alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 11q12.1. Chromosome 11 houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. Webster, L.T., et al. 1976. Identification of separate acyl- CoA:glycine and acyl-CoA:L-glutamine N-acyltransferase activities in mitochondrial fractions from liver of rhesus monkey and man. J. Biol. Chem. 251: 3352-3358.
2. Mawal, Y.R. and Qureshi, I.A. 1994. An immunodetection method for the quantitation of human acyl CoA:glycine N-acyltransferase in biological samples. Biochem. Mol. Biol. Int. 34: 595-601.
3. Merkler, D.J., et al. 1996. Fatty acid amide biosynthesis: a possible new role for peptidylglycine α-amidating enzyme and acyl-coenzyme A: glycine N-acyltransferase. Arch. Biochem. Biophys. 330: 430-434.
4. Mawal, Y., et al. 1997. Developmental profile of mitochondrial glycine N-acyltransferase in human liver. J. Pediatr. 130: 1003-1007.
5. Schuchman, E.H. 2007. The pathogenesis and treatment of acid sphingomyelinase-deficient Niemann-Pick disease. J. Inherit. Metab. Dis. 30: 654-663.
6. Bhuiyan, Z.A., et al. 2008. An intronic mutation leading to incomplete skipping of exon-2 in KCNQ1 rescues hearing in Jervell and Lange-Nielsen syndrome. Prog. Biophys. Mol. Biol. 98: 319-327.
7. Coldren, C.D., et al. 2009. Chromosomal microarray mapping suggests a role for BSX and Neurogranin in neurocognitive and behavioral defects in the 11q terminal deletion disorder (Jacobsen syndrome). Neurogenetics 10: 89-95.

CHROMOSOMAL LOCATION

Genetic locus: GLYATL1 (human) mapping to 11q12.1.

SOURCE

GLYATL1 (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 265-279 near the C-terminus of GLYATL1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515030 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GLYATL1 (B-12) is recommended for detection of GLYATL1 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 GLYATL1 siRNA (h): sc-96841, GLYATL1 shRNA Plasmid (h): sc-96841-SH and GLYATL1 shRNA (h) Lentiviral Particles: sc-96841-V.

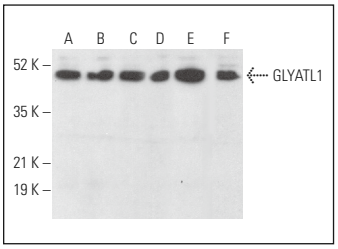
Molecular Weight of GLYATL1 isoforms 1/2: 35/39 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

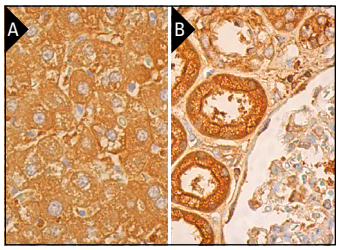
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



GLYATL1 (B-12): sc-515030. Western blot analysis of GLYATL1 expression in Hep G2 (**A**), HEL 92.1.7 (**B**), c4 (**C**) and 3611-RF (**D**) whole cell lysates and SH-SY5Y (**E**) and KNRK (**F**) nuclear extracts.



GLYATL1 (B-12): sc-515030. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat liver tissue showing cytoplasmic staining of hepatocytes (**A**), and of human kidney tissue showing cytoplasmic staining of cells in tubules and cells in glomeruli (**B**). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

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.