

Acatin (36-X): sc-101305

BACKGROUND

Acatin, also known as AT1, AT-1 or SLC33A1 (solute carrier family 33 member 1), is a multi-pass membrane protein that functions to transport acetyl-CoA into the lumen of the Golgi apparatus. Acatin contains several transmembrane domains and is highly expressed in pancreas, heart, brain, lung, liver, placenta and kidneys. Found in the membrane of both the Golgi and the endoplasmic reticulum (ER), Acatin is required for the O-acetylation of gangliosides; a process that uses acetyl-CoA as the acid donor to produce acetylated sialic acid residues on glycoproteins and gangliosides. There are several different types of sialic acid residues that are found on gangliosides, all of which contribute to the complexity and diversity of sugar chains. When the sialic acid residues are acetylated, the gangliosides participate in pathways such as neural cell differentiation and migration.

REFERENCES

1. Kanamori, A., Nakayama, J., Fukuda, M.N., Stallcup, W.B., Sasaki, K., Fukuda, M. and Hirabayashi, Y. 1997. Expression cloning and characterization of a cDNA encoding a novel membrane protein required for the formation of O-acetylated ganglioside: a putative acetyl-CoA transporter. *Proc. Natl. Acad. Sci. USA* 94: 2897-2902.
2. Bora, R.S., Kanamori, A. and Hirabayashi, Y. 1998. Assignment1 of a putative acetyl-CoA transporter gene (Acatn) to mouse chromosome band 3E1-E3 by *in situ* hybridization. *Cytogenet. Cell Genet.* 83: 78-79.
3. Bora, R.S., Ichikawa, S., Kanamori, A. and Hirabayashi, Y. 2000. Genomic structure and promoter analysis of putative mouse acetyl-CoA transporter gene. *FEBS Lett.* 473: 169-172.
4. Bora, R.S., Ichikawa, S., Kanamori, A. and Hirabayashi, Y. 2000. cDNA cloning of putative rat acetyl-CoA transporter and its expression pattern in brain. *Cytogenet. Cell Genet.* 89: 204-208.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603690. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Hirabayashi, Y., Kanamori, A., Nomura, K.H. and Nomura, K. 2004. The acetyl-CoA transporter family SLC33. *Pflugers Arch.* 447: 760-762.
7. Jiang, Y.M., Yamamoto, M., Tanaka, F., Ishigaki, S., Katsuno, M., Adachi, H., Niwa, J., Doyu, M., Yoshida, M., Hashizume, Y. and Sobue, G. 2007. Gene expressions specifically detected in motor neurons (Dynactin 1, early growth response 3, acetyl-CoA transporter, death receptor 5, and cyclin C) differentially correlate to pathologic markers in sporadic amyotrophic lateral sclerosis. *J. Neuropathol. Exp. Neurol.* 66: 617-627.

CHROMOSOMAL LOCATION

Genetic locus: SLC33A1 (human) mapping to 3q25.31; Slc33a1 (mouse) mapping to 3 E1.

SOURCE

Acatin (36-X) is a mouse monoclonal antibody raised against recombinant Acatin of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Acatin (36-X) is recommended for detection of Acatin 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Acatin siRNA (h): sc-72429, Acatin siRNA (m): sc-72430, Acatin shRNA Plasmid (h): sc-72429-SH, Acatin shRNA Plasmid (m): sc-72430-SH, Acatin shRNA (h) Lentiviral Particles: sc-72429-V and Acatin shRNA (m) Lentiviral Particles: sc-72430-V.

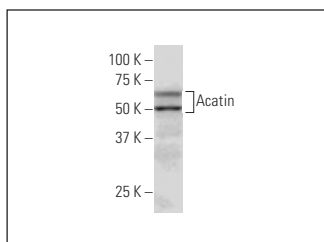
Molecular Weight of Acatin: 61 kDa.

Positive Controls: PC-12 cell lysate: sc-2250.

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).

DATA



Acatin (36-X): sc-101305. Western blot analysis of Acatin expression in PC-12 whole cell lysate.

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.

PROTOCOLS

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