SANTA CRUZ BIOTECHNOLOGY, INC.

SNAT4 (R-60): sc-67086

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The sodium-coupled neutral amino acid transporters (SNAT) of the SLC38 gene family include system A subtypes SNAT1, SNAT2 and SNAT4 and system N subtypes SNAT3 and SNAT5. The SLC38 transporters are essential for the uptake of nutrients, energy production, metabolism, detoxification and the cycling of neurotransmitters. SNAT4, also designated ATA3, NAT3 or PAAT, has been mapped to human chromosome 12q13.11. Tissue expression of the SNAT4 protein is most predominant in embryonic and adult liver and to a much lesser extent in the muscle, kidney and pancreas. System A transport proteins may play a significant role in fetal development, and inhibition of the transport system has been associated with fetal growth retardation.

REFERENCES

1. Wang, H., et al. 2000. Cloning and functional expression of ATA1, a subtype of amino acid transporter A, from human placenta. Biochem. Biophys. Res. Commun. 273: 1175-1179.
2. Hatanaka, T., et al. 2000. Primary structure, functional characteristics and tissue expression pattern of human ATA2, a subtype of amino acid transport system A. Biochim. Biophys. Acta 1467: 1-6.
3. Gu, S., et al. 2001. Characterization of an N-system amino acid transporter expressed in retina and its involvement in glutamine transport. J. Biol. Chem. 276: 24137-24144.
4. Gu, S., et al. 2001. A novel human amino acid transporter, hNAT3: cDNA cloning, chromosomal mapping, genomic structure, expression, and functional characterization. Genomics 74: 262-272.
5. Freeman, T.L., et al. 2002. ATA2-mediated amino acid uptake following partial hepatectomy is regulated by redistribution to the plasma membrane. Arch. Biochem. Biophys. 400: 215-222.
6. Palii, S.S., et al. 2004. Transcriptional control of the human sodium-coupled neutral amino acid transporter system A gene by amino acid availability is mediated by an intronic element. J. Biol. Chem. 279: 3463-3471.
7. Sidoryk, M., et al. 2004. Increased expression of a glutamine transporter SNAT3 is a marker of malignant gliomas. Neuroreport 15: 575-578.

CHROMOSOMAL LOCATION

Genetic locus: Slc38a4 (mouse) mapping to 15 F1.

SOURCE

SNAT4 (R-60) is a rabbit polyclonal antibody raised against amino acids 1-60 mapping within an N-terminal cytoplasmic domain of SNAT4 of rat origin.

PRODUCT

Each vial contains 200 µg IgG 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

SNAT4 (R-60) is recommended for detection of SNAT4 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SNAT4 siRNA (m): sc-44995, SNAT4 shRNA Plasmid (m): sc-44995-SH and SNAT4 shRNA (m) Lentiviral Particles: sc-44995-V.

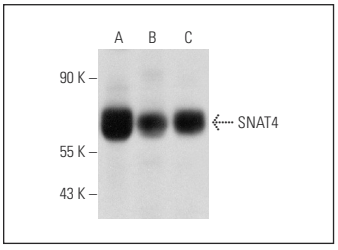
Molecular Weight of SNAT4: 60 kDa.

Positive Controls: rat liver extract: sc-2395, mouse placenta extract: sc-364247 or mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SNAT4 (R-60): sc-67086. Western blot analysis of SNAT4 expression in mouse placenta (**A**), rat liver (**B**) and mouse liver (**C**) tissue extracts.

RESEARCH USE

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

PROTOCOLS

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