SANTA CRUZ BIOTECHNOLOGY, INC.

SNAT1 (H-60): sc-67080

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. The SNAT1 protein, also designated ATA1 or NAT-2, is encoded by the human gene SLC38A1, which maps to chromosome 12q13.11. SNAT1 is responsible for the transport of glutamine, an intermediate in the synthesis of urea, and may be involved in the generation of glutamate in the retina. SNAT1 protein may be detected in some tissues such as heart, brain and placenta and expression levels are enriched in certain neuronal populations within the CNS. SNAT1 is not present in astrocytes.

REFERENCES

1. 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.
2. 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.
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. 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.
5. 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.
6. 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: SLC38A1 (human) mapping to 12q13.11; Slc38a1 (mouse) mapping to 15 F1.

SOURCE

SNAT1 (H-60) is a rabbit polyclonal antibody raised against amino acids 1-60 mapping at the N-terminus of SNAT1 of human 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

SNAT1 (H-60) is recommended for detection of SNAT1 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)], 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).

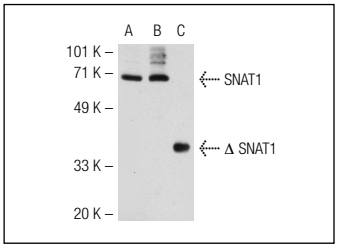
SNAT1 (H-60) is also recommended for detection of SNAT1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SNAT1 siRNA (h): sc-44972, SNAT1 siRNA (m): sc-44973, SNAT1 shRNA Plasmid (h): sc-44972-SH, SNAT1 shRNA Plasmid (m): sc-44973-SH, SNAT1 shRNA (h) Lentiviral Particles: sc-44972-V and SNAT1 shRNA (m) Lentiviral Particles: sc-44973-V.

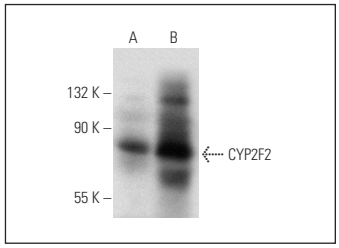
Molecular Weight of SNAT1: 55 kDa.

Positive Controls: Ramos cell lysate: sc-2216, NAMALWA cell lysate: sc-2234 or SNAT1 (h2): 293T Lysate: sc-111142.

DATA



SNAT1 (H-60): sc-67080. Western blot analysis of SNAT1 expression in NAMALWA (**A**) and Ramos (**B**) whole cell lysates and truncated human recombinant SNAT1 fusion protein (**C**).



SNAT1 (H-60): sc-67080. Western blot analysis of SNAT1 expression in non-transfected: sc-117752 (**A**) and human SNAT1 transfected: sc-111142 (**B**) 293T whole cell lysates.

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.