

SNAT4 (N-19): sc-33448

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

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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 (human) mapping to 12q13.11; Slc38a4 (mouse) mapping to 15 F1.

SOURCE

SNAT4 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SNAT4 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.

Blocking peptide available for competition studies, sc-33448 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SNAT4 (N-19) is recommended for detection of SNAT4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SNAT4 (N-19) is also recommended for detection of SNAT4 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SNAT4 siRNA (h): sc-44994, SNAT4 siRNA (m): sc-44995, SNAT4 shRNA Plasmid (h): sc-44994-SH, SNAT4 shRNA Plasmid (m): sc-44995-SH, SNAT4 shRNA (h) Lentiviral Particles: sc-44994-V and SNAT4 shRNA (m) Lentiviral Particles: sc-44995-V.

Molecular Weight of SNAT4: 60 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, mouse liver extract: sc-2256 or Caki-1 cell lysate: sc-2224.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Farley, D.M., et al. 2010. Placental amino acid transport and placental leptin resistance in pregnancies complicated by maternal obesity. *Placenta* 31: 718-724.

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 or our catalog for detailed protocols and support products.