

SNAT3 (H-7): sc-373705

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. SNAT3, also designated SN1, G17 and NAT1, is encoded by the human gene SLC38A3. SNAT3 is a glutamine transporter expressed in astroglia from embryonic stages through adulthood, as well as in the liver. Expression levels for SNAT3 in postnatal brain are twice that of normal adult. Increased expression of SNAT3 may also serve as a marker of primary malignant gliomas *in situ*.

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. 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. Boulland, J.L., et al. 2003. Highly differential expression of SN1, a bidirectional glutamine transporter, in astroglia and endothelium in the developing rat brain. *Glia* 41: 260-275.
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: SLC38A3 (human) mapping to 3p21.31.

SOURCE

SNAT3 (H-7) is a mouse monoclonal antibody raised against amino acids 1-60 mapping at the N-terminus of SNAT3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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

SNAT3 (H-7) is recommended for detection of SNAT3 of 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 SNAT3 siRNA (h): sc-44980, SNAT3 shRNA Plasmid (h): sc-44980-SH and SNAT3 shRNA (h) Lentiviral Particles: sc-44980-V.

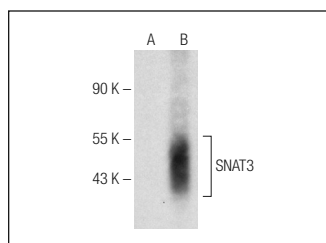
Molecular Weight of SNAT3: 60 kDa.

Positive Controls: SNAT3 (h): 293T Lysate: sc-115641.

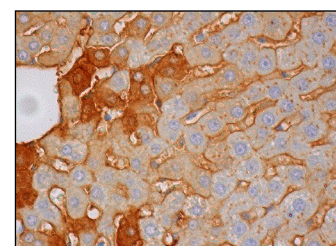
RECOMMENDED SUPPORT REAGENTS

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). 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



SNAT3 (H-7): sc-373705. Western blot analysis of SNAT3 expression in non-transfected: sc-117752 (A) and human SNAT3 transfected: sc-115641 (B) 293T whole cell lysates.



SNAT3 (H-7): sc-373705. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane and cytoplasmic staining of hepatocytes and hepatic sinusoids.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2017. Amino acid transporter SLC38A3 promotes metastasis of non-small cell lung cancer cells by activating PDK1. *Cancer Lett.* 393: 8-15.

RESEARCH USE

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