SANTA CRUZ BIOTECHNOLOGY, INC.

SNAT2 (C-6): sc-514037

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. SNAT2, also designated ATA2, PRO1068 and SAT2, is encoded by the human gene SLC38A2. The functional role of SNAT2 in the nervous system is unclear. Protein expression is notably enriched in the spinal cord and brain stem nuclei of the auditory system. System A transport proteins are also present in placental tissue. These SNAT proteins may play a significant role in fetal development and inhibition of the transport system has been associated with fetal growth retardation.

CHROMOSOMAL LOCATION

Genetic locus: SLC38A2 (human) mapping to 12q13.11; Slc38a2 (mouse) mapping to 15 F1.

SOURCE

SNAT2 (C-6) is a mouse monoclonal antibody raised against amino acids 1-60 mapping at the N-terminus of SNAT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SNAT2 (C-6) is available conjugated to agarose (sc-514037 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514037 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514037 PE), fluorescein (sc-514037 FITC), Alexa Fluor® 488 (sc-514037 AF488), Alexa Fluor® 546 (sc-514037 AF546), Alexa Fluor® 594 (sc-514037 AF594) or Alexa Fluor® 647 (sc-514037 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514037 AF680) or Alexa Fluor® 790 (sc-514037 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

SNAT2 (C-6) is recommended for detection of SNAT2 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SNAT2 siRNA (h): sc-44974, SNAT2 siRNA (m): sc-44975, SNAT2 shRNA Plasmid (h): sc-44974-SH, SNAT2 shRNA Plasmid (m): sc-44975-SH, SNAT2 shRNA (h) Lentiviral Particles: sc-44974-V and SNAT2 shRNA (m) Lentiviral Particles: sc-44975-V.

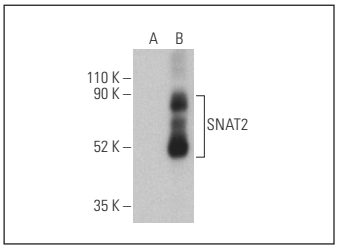
Molecular Weight of SNAT2: 60 kDa.

Positive Controls: SNAT2 (h): 293T Lysate: sc-113599.

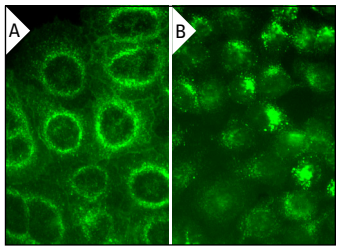
RECOMMENDED SUPPORT REAGENTS

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.

DATA



SNAT2 (C-6): sc-514037. Western blot analysis of SNAT2 expression in non-transfected: sc-117752 (**A**) and human SNAT2 transfected: sc-113599 (**B**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



SNAT2 (C-6): sc-514037. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic vesicles localization (**A**). Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic vesicles localization (**B**).

SELECT PRODUCT CITATIONS

1. Song, M., et al. 2018. IRE1α-XBP1 controls T cell function in ovarian cancer by regulating mitochondrial activity. Nature 562: 423-428.
2. Curnock, R., et al. 2019. TFEB controls retromer expression in response to nutrient availability. J. Cell Biol. 218: 3954-3966.
3. Byun, J.K., et al. 2020. Inhibition of glutamine utilization synergizes with immune checkpoint inhibitor to promote antitumor immunity. Mol. Cell 80: 592-606.e8.
4. Roberson, P.A., et al. 2021. LAT1 protein content increases following 12 weeks of resistance exercise training in human skeletal muscle. Front. Nutr. 7: 628405.
5. Zhang, D., et al. 2021. The amino acid-mTORC1 pathway mediates APEC TW-XM-induced inflammation in bEnd.3 cells. Int. J. Mol. Sci. 22: 9245.

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.