SANTA CRUZ BIOTECHNOLOGY, INC.

SNAT1 (H-9): sc-137032

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 NAT2 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC38A1 (human) mapping to 12q13.11; Slc38a1 (mouse) mapping to 15 F1.

SOURCE

SNAT1 (H-9) is a mouse monoclonal antibody raised against amino acids 1-60 mapping at the N-terminus of SNAT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SNAT1 (H-9) is available conjugated to agarose (sc-137032 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137032 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137032 PE), fluorescein (sc-137032 FITC), Alexa Fluor® 488 (sc-137032 AF488), Alexa Fluor® 546 (sc-137032 AF546), Alexa Fluor® 594 (sc-137032 AF594) or Alexa Fluor® 647 (sc-137032 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137032 AF680) or Alexa Fluor® 790 (sc-137032 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SNAT1 (H-9) is recommended for detection of SNAT1 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).

SNAT1 (H-9) is also recommended for detection of SNAT1 in additional species, including canine, bovine and porcine.

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.

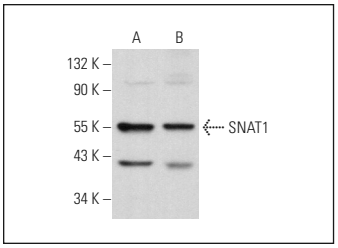
Molecular Weight of SNAT1: 55 kDa.

Positive Controls: SNAT1 (h2): 293T Lysate: sc-111142, MCF7 whole cell lysate: sc-2206 or Daudi cell lysate: sc-2415.

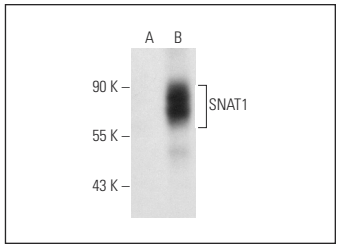
RECOMMENDED SUPPORT REAGENTS

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



SNAT1 (H-9): sc-137032. Western blot analysis of SNAT1 expression in Daudi (**A**) and MCF7 (**B**) whole cell lysates.



SNAT1 (H-9): sc-137032. Western blot analysis of SNAT1 expression in non-transfected: sc-117752 (**A**) and human SNAT1 transfected: sc-111142 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nüsken, E., et al. 2016. Increased rat placental fatty acid, but decreased amino acid and glucose transporters potentially modify intrauterine programming. J. Cell. Biochem. 117: 1594-1603.
2. Kühnel, E., et al. 2017. Placental-specific overexpression of sFlt-1 alters trophoblast differentiation and nutrient transporter expression in an IUGR mouse model. J. Cell. Biochem. 118: 1316-1329.
3. Chen, X., et al. 2020. Entorhinal cortex-based metabolic profiling of chronic restraint stress mice model of depression. Aging 12: 3042-3052.
4. Garcia-Santillan, J.A., et al. 2022. Placental nutrient transporters and maternal fatty acids in SGA, AGA, and LGA newborns from mothers with and without obesity. Front. Cell Dev. Biol. 10: 822527.

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 for detailed protocols and support products.