

SNAT5 (G-7): sc-515813

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. SNAT proteins are expressed in most mammalian tissues. SNAT5 is a neutral amino acid carrier structurally and mechanistically related to the SNAT3 transporter that participates in the glutamate-glutamine cycle in the brain and that mediates the efflux of glutamine from glial cells. It is expressed ubiquitously but distributed unevenly in the CNS, with highest accumulation in the neocortex, hippocampus, striatum and spinal cord, and moderate accumulation in the thalamus, hypothalamus and brainstem.

CHROMOSOMAL LOCATION

Genetic locus: SLC38A5 (human) mapping to Xp11.23; Slc38a5 (mouse) mapping to X A1.1.

SOURCE

SNAT5 (G-7) is a mouse monoclonal antibody raised against amino acids 218-266 mapping within an internal region of SNAT5 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.

SNAT5 (G-7) is available conjugated to agarose (sc-515813 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515813 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515813 PE), fluorescein (sc-515813 FITC), Alexa Fluor® 488 (sc-515813 AF488), Alexa Fluor® 546 (sc-515813 AF546), Alexa Fluor® 594 (sc-515813 AF594) or Alexa Fluor® 647 (sc-515813 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515813 AF680) or Alexa Fluor® 790 (sc-515813 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

SNAT5 (G-7) is recommended for detection of SNAT5 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 SNAT5 siRNA (h): sc-61577, SNAT5 siRNA (m): sc-61578, SNAT5 shRNA Plasmid (h): sc-61577-SH, SNAT5 shRNA Plasmid (m): sc-61578-SH, SNAT5 shRNA (h) Lentiviral Particles: sc-61577-V and SNAT5 shRNA (m) Lentiviral Particles: sc-61578-V.

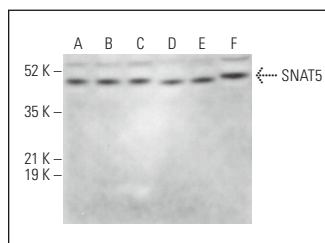
Molecular Weight of SNAT5: 55 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, C2C12 whole cell lysate: sc-364188 or Neuro-2A whole cell lysate: sc-364185.

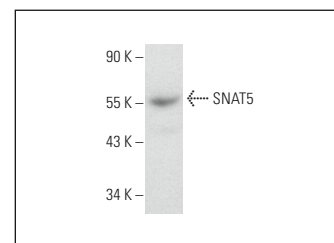
RECOMMENDED SUPPORT REAGENTS

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



SNAT5 (G-7): sc-515813. Western blot analysis of SNAT5 expression in C2C12 (A), Neuro-2A (B), BC3H1 (C), HL-60 (D), HEL 92.1.7 (E) and C6 (F) whole cell lysates.



SNAT5 (G-7): sc-515813. Western blot analysis of SNAT5 expression in THP-1 whole cell lysate.

SELECT PRODUCT CITATIONS

- McColl, E.R. and Piquette-Miller, M. 2019. Poly(I:C) alters placental and fetal brain amino acid transport in a rat model of maternal immune activation. *Am. J. Reprod. Immunol.* 81: e13115.
- Lacaille, H., et al. 2021. Preterm birth alters the maturation of the GABAergic system in the human prefrontal cortex. *Front. Mol. Neurosci.* 14: 827370.
- Zhu, L., et al. 2023. SLC38A5 aggravates DC-mediated psoriasiform skin inflammation via potentiating lysosomal acidification. *Cell Rep.* 42: 112910.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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