

SNAT2 (G-8): sc-166366



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. 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 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 19-47 near the N-terminus of SNAT2 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.

SNAT2 (G-8) is available conjugated to agarose (sc-166366 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166366 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166366 PE), fluorescein (sc-166366 FITC), Alexa Fluor® 488 (sc-166366 AF488), Alexa Fluor® 546 (sc-166366 AF546), Alexa Fluor® 594 (sc-166366 AF594) or Alexa Fluor® 647 (sc-166366 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166366 AF680) or Alexa Fluor® 790 (sc-166366 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166366 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SNAT2 (G-8) 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). SNAT2 (G-8) is also recommended for detection of SNAT2 in additional species, including equine, canine, bovine and porcine.

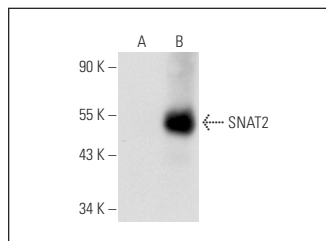
Suitable for use as control antibody for SNAT2 siRNA (h): sc-44974, SNAT2 siRNA (m): sc-44975, SNAT2 shRNA Plasmid (h): sc-44974-SH, SNAT2 shRNA Plasmid (m): sc-44975-SH, SNAT2 shRNA (h) Lentiviral Particles: sc-44974-V and SNAT2 shRNA (m) Lentiviral Particles: sc-44975-V.

Molecular Weight of SNAT2: 60 kDa.

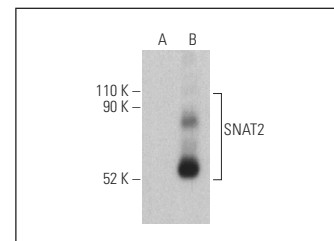
STORAGE

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

DATA



SNAT2 (G-8): sc-166366. Western blot analysis of SNAT2 expression in non-transfected: sc-117752 (A) and human SNAT2 transfected: sc-113599 (B) 293T whole cell lysates.



SNAT2 (G-8): sc-166366. Western blot analysis of SNAT2 expression in non-transfected: sc-117752 (A) and human SNAT2 transfected: sc-113599 (B) 293T whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

- Velázquez-Villegas, L.A., et al. 2015. Prolactin and the dietary protein/carbohydrate ratio regulate the expression of SNAT2 amino acid transporter in the mammary gland during lactation. *Biochim. Biophys. Acta* 1848: 1157-1164.
- Thamotharan, S., et al. 2017. Differential microRNA expression in human placentas of term intra-uterine growth restriction that regulates target genes mediating angiogenesis and amino acid transport. *PLoS ONE* 12: e0176493.
- Chen, F., et al. 2018. Regulation of amino acid transporters in the mammary gland from late pregnancy to peak lactation in the sow. *J. Anim. Sci. Biotechnol.* 9: 35.
- 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.
- Song, L., et al. 2020. Prenatal exercise reverses high-fat diet induced placental alterations and alters male fetal hypothalamus during late-gestation in rats^f. *Biol. Reprod.* 102: 705-716.
- Hamdani, E.H., et al. 2021. Perturbation of astroglial Slc38 glutamine transporters by NH₄⁺ contributes to neurophysiologic manifestations in acute liver failure. *FASEB J.* 35: e21588.
- Baek, J.H., et al. 2022. Long-term hyperglycemia causes depressive behaviors in mice with hypoactive glutamatergic activity in the medial prefrontal cortex, which is not reversed by Insulin treatment. *Cells* 11: 4012.
- Zhu, L., et al. 2023. Comprehensive analysis of the biological function and immune infiltration of SLC38A2 in gastric cancer. *BMC Gastroenterol.* 23: 74.

RESEARCH USE

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

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