SANTA CRUZ BIOTECHNOLOGY, INC.

ASCT1 (C-8): sc-393157

BACKGROUND

Neutral amino acid transporter proteins, also designated alanine/serine/cysteine/threonine transporters (ASCT), belong to the sodium dicarboxylate (SDF) symporter family of proteins. The members of this family of proteins are multi-pass membrane-bound proteins that act as transporters for threonine, alanine, serine and cysteine. ASCT1 and ASCT2 have been shown to exhibit sodium dependence. ASCT1 is expressed in most tissues, but highest expression has been detected in muscle, brain and pancreas. The highest levels of ASCT2 expression are found in placenta, kidney, pancreas, muscle and intestine.

REFERENCES

1. Arriza, J.L., et al. 1993. Cloning and expression of a human neutral amino acid transporter with structural similarity to the glutamate transporter gene family. J. Biol. Chem. 268: 15329-15332.
2. Hofmann, K., et al. 1995. Human neutral amino acid transporter ASCT1: structure of the gene (SLC1A4) and localization to chromosome 2p13-p15. Genomics 24: 20-26.
3. Kekuda, R., et al. 1996. Cloning of the sodium-dependent, broad-scope, neutral amino acid transporter Bo from a human placental choriocarcinoma cell line. J. Biol. Chem. 271: 18657-18661.
4. Rasko, J.E., et al. 1999. The RD114/simian type D retrovirus receptor is a neutral amino acid transporter. Proc. Natl. Acad. Sci. USA 96: 2129-2134.
5. Tailor, C.S., et al. 1999. A sodium-depend and baboon endogenous retroviruses and simian type D retroviruses. J. Virol. 73: 4470-4474.
6. Tailor, C.S., et al. 2001. Truncated forms of the dual function human ASCT2 neutral amino acid transporter/retroviral receptor are translationally initiated at multiple alternative CUG and GUG codons. J. Biol. Chem. 276: 27221-27230.

CHROMOSOMAL LOCATION

Genetic locus: SLC1A4 (human) mapping to 2p14.

SOURCE

ASCT1 (C-8) is a mouse monoclonal antibody raised against amino acids 112-171 mapping within an internal region of ASCT1 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.

ASCT1 (C-8) is available conjugated to agarose (sc-393157 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393157 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393157 PE), fluorescein (sc-393157 FITC), Alexa Fluor® 488 (sc-393157 AF488), Alexa Fluor® 546 (sc-393157 AF546), Alexa Fluor® 594 (sc-393157 AF594) or Alexa Fluor® 647 (sc-393157 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393157 AF680) or Alexa Fluor® 790 (sc-393157 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ASCT1 (C-8) is recommended for detection of ASCT1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ASCT1 siRNA (h): sc-60208, ASCT1 shRNA Plasmid (h): sc-60208-SH and ASCT1 shRNA (h) Lentiviral Particles: sc-60208-V.

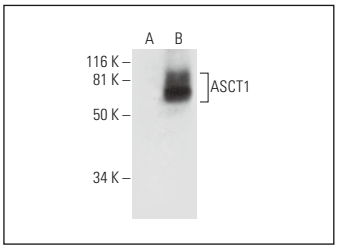
Molecular Weight of ASCT1: 56 kDa.

Positive Controls: ASCT1 (h4): 293T Lysate: sc-171835.

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



ASCT1 (C-8): sc-393157. Western blot analysis of ASCT1 expression in non-transfected: sc-117752 (**A**) and human ASCT1 transfected: sc-171835 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Conger, K.O., et al. 2024. ASCT2 is a major contributor to serine uptake in cancer cells. Cell Rep. 43: 114552.

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.