

# ASCT1 (h4): 293T Lysate: sc-171835

## BACKGROUND

Neutral amino acid transporter proteins, also designated alanine/serine/cysteine/threonine transporters (ASCT), belong to the sodium:dicarboxylate (SDF) symporter family or 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., Kavanaugh, M.P., Fairman, W.A., Wu, Y.N., Murdoch, G.H., North, R.A. and Amara, S.G. 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., Düker, M., Fink, T., Lichter, P. and Stoffel, W. 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., Prasad, P.D., Fei, Y.J., Torres-Zamorano, V., Sinha, S., Yang-Feng, T.L., Leibach, F.H. and Ganapathy, V. 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., Battini, J.L., Gottschalk, R.J., Mazo, I. and Miller, A.D. 1999. The RD114/simian type D retrovirus receptor is a neutral amino acid transporter. *Proc. Nat. Acad. Sci. USA* 96: 2129-2134.
5. Tailor, C.S., Nouri, A., Zhao, Y., Takeuchi, Y. and Kabat, D. 1999. A sodium-dependent neutral-amino-acid transporter mediates infections of feline and baboon endogenous retroviruses and simian type D retroviruses. *J. Virol.* 73: 4470-4474.
6. Yamamoto, T., Nishizaki, I., Nukada, T., Kamegaya, E., Furuya, S., Hirabayashi, Y., Ikeda, K., Hata, H., Kobayashi, H., Sora, I. and Yamamoto, H. 2004. Functional identification of ASCT1 neutral amino acid transporter as the predominant system for the uptake of L-serine in rat neurons in primary culture. *Neurosci. Res.* 49: 101-111.
7. Kanai, Y. and Hediger, M.A. 2004. The glutamate/neutral amino acid transporter family SLC1: molecular, physiological and pharmacological aspects. *Pflügers Arch.* 447: 469-479.
8. Hashimoto, Y., Sadamoto, Y., Konno, A., Kon, Y. and Iwanaga, T. 2005. Distribution of neutral amino acid transporter ASCT1 in the non-neuronal tissues of mice. *Jpn. J. Vet. Res.* 52: 113-124.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

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

## PRODUCT

ASCT1 (h4): 293T Lysate represents a lysate of human ASCT1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

ASCT1 (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive ASCT1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

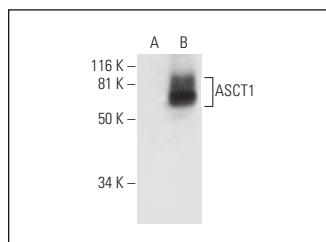
ASCT1 (C-8): sc-393157 is recommended as a positive control antibody for Western Blot analysis of enhanced human ASCT1 expression in ASCT1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## 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.

## 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.

## RESEARCH USE

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