SANTA CRUZ BIOTECHNOLOGY, INC.

SLC7A6 (m): 293T Lysate: sc-123627

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SLC7A6 (solute carrier family 7 member 6), also known as LAT3, LAT-2 or y+LAT-2 (Y+L amino acid transporter 2), is a 515 amino acid multi-pass membrane protein belonging to the amino acid-polyamine-organocation (APC) superfamily and the L-type amino acid transporter (LAT) family. Expressed in normal fibroblasts, HUVECs (human umbilical vein endothelial cells), monocytes, RPE (retinal pigment epithelial) cells and various carcinoma cell lines, SLC7A6 is involved in the sodium-independent uptake of dibasic amino acids and sodium-dependent uptake of some neutral amino acids. SLC7A6 also acts as an arginine/glutamine exchanger, following an antiport mechanism for amino acid transport, influencing arginine release in exchange for extracellular amino acids. SLC7A6 may exist as a disulfide-linked heterodimer with the amino acid transport protein CD98. SLC7A6 plays a role in nitric oxide synthesis in HUVECs via transport of L-arginine, and is involved in the transport of L-arginine in monocytes and reduces uptake of ornithine in RPE cells.

REFERENCES

1. Dall'Asta, V., Bussolati, O., Sala, R., Rotoli, B.M., Sebastio, G., Sperandeo, M.P., Andria, G. and Gazzola, G.C. 2000. Arginine transport through system y+L in cultured human fibroblasts: normal phenotype of cells from LPI subjects. Am. J. Physiol., Cell Physiol. 279: C1829-C1837.
2. Bröer, A., Wagner, C.A., Lang, F. and Bröer, S. 2000. The heterodimeric amino acid transporter 4F2hc/y+LAT2 mediates arginine efflux in exchange with glutamine. Biochem. J. 349: 787-795.
3. Bröer, A., Friedrich, B., Wagner, C.A., Fillon, S., Ganapathy, V., Lang, F. and Bröer, S. 2001. Association of 4F2hc with light chains LAT1, LAT2 or y+LAT2 requires different domains. Biochem. J. 355: 725-731.
4. Arancibia-Garavilla, Y., Toledo, F., Casanello, P. and Sobrevia, L. 2003. Nitric oxide synthesis requires activity of the cationic and neutral amino acid transport system y+L in human umbilical vein endothelium. Exp. Physiol. 88: 699-710.
5. Rotoli, B.M., Bussolati, O., Sala, R., Barilli, A., Talarico, E., Gazzola, G.C. and Dall'Asta, V. 2004. INF-γ stimulates arginine transport through system y+L in human monocytes. FEBS Lett. 571: 177-181.
6. Sperandeo, M.P., Paladino, S., Maiuri, L., Maroupulos, G.D., Zurzolo, C., Taglialatela, M., Andria, G. and Sebastio, G. 2005. A y+LAT-1 mutant protein interferes with y+LAT-2 activity: implications for the molecular pathogenesis of lysinuric protein intolerance. Eur. J. Hum. Genet. 13: 628-634.
7. Chubb, S., Kingsland, A.L., Bröer, A. and Bröer, S. 2006. Mutation of the 4F2 heavy-chain carboxy-terminus causes y+ LAT2 light-chain dysfunction. Mol. Membr. Biol. 23: 255-267.
8. Rotmann, A., Simon, A., Martine, U., Habermeier, A. and Closs, E.I. 2007. Activation of classical protein kinase C decreases transport via systems y+ and y+L. Am. J. Physiol., Cell Physiol. 292: C2259-C2268.
9. Kaneko, S., Ando, A., Okuda-Ashitaka, E., Maeda, M., Furuta, K., Suzuki, M., Matsumura, M. and Ito, S. 2007. Ornithine transport via cationic amino acid transporter-1 is involved in ornithine cytotoxicity in retinal pigment epithelial cells. Invest. Ophthalmol. Vis. Sci. 48: 464-471.

CHROMOSOMAL LOCATION

Genetic locus: Slc7a6 (mouse) mapping to 8 D3.

PRODUCT

SLC7A6 (m): 293T Lysate represents a lysate of mouse SLC7A6 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

SLC7A6 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SLC7A6 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.

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.

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.