

LAT2 (3F10): sc-293242

BACKGROUND

L-amino acid transporter protein-2 (LAT2), a non-glycosylated membrane protein, complexes with CD98 to contribute to reabsorption of neutral amino acids in renal epithelia and blood-tissue barriers. The gene encoding LAT2 is expressed primarily in the kidney, but also to a lesser extent in placenta, brain, liver, spleen, skeletal muscle, heart, small intestine, and lung. Transfection with the antisense sequence of LAT2 suggests that LAT2 expression plays a major role in net basolateral efflux of cysteine, and points to LAT2 as a candidate gene to modulate cysteine reabsorption. In addition, the CD98/LAT2 heterodimer associates with Integrin β 1 in intestinal epithelial cells, where ligand binding to CD98 and another cell surface molecule, ICAM-1 differentially regulates LAT2 activity, suggesting a novel mechanism by which events like cell adhesion may affect amino acid transport activity.

REFERENCES

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4. Pinho, M.J., et al. 2003. Organ-specific overexpression of renal LAT2 and enhanced tubular L-DOPA uptake precede the onset of hypertension. *Hypertension* 42: 613-618.
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6. Kim do, K., et al. 2004. System L-amino acid transporters are differently expressed in rat astrocyte and C6 glioma cells. *Neurosci. Res.* 50: 437-446.
7. Soares-Da-Silva, P., et al. 2004. Cloning and gene silencing of LAT2, the L-3,4-dihydroxyphenylalanine (L-DOPA) transporter, in pig renal LLC-PK1 epithelial cells. *FASEB J.* 18: 1489-1498.
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CHROMOSOMAL LOCATION

Genetic locus: SLC7A8 (human) mapping to 14q11.2.

SOURCE

LAT2 (3F10) is a mouse monoclonal antibody raised against amino acids 467-535 of LAT2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LAT2 (3F10) is recommended for detection of LAT2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

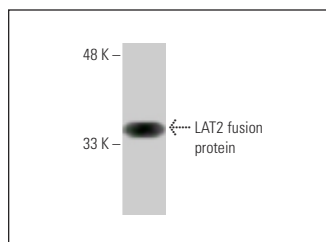
Suitable for use as control antibody for LAT2 siRNA (h): sc-105609, LAT2 shRNA Plasmid (h): sc-105609-SH and LAT2 shRNA (h) Lentiviral Particles: sc-105609-V.

Molecular Weight of LAT2: 58 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



LAT2 (3F10): sc-293242. Western blot analysis of human recombinant LAT2 fusion protein.

SELECT PRODUCT CITATIONS

1. Huang, X., et al. 2019. The HGF-MET axis coordinates liver cancer metabolism and autophagy for chemotherapeutic resistance. *Autophagy* 15: 1258-1279.

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.

PROTOCOLS

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