

LAT2 (P-21): sc-133726

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

1. Pineda, M., et al. 1999. Identification of a membrane protein, LAT2, that co-expresses with 4F2 heavy chain, an L-type amino acid transport activity with broad specificity for small and large zwitterionic amino acids. *J. Biol. Chem.* 274: 19738-19744.
2. Segawa, H., et al. 1999. Identification and functional characterization of a Na⁺-independent neutral amino acid transporter with broad substrate selectivity. *J. Biol. Chem.* 274: 19745-19751.
3. Fernandez, E., et al. 2003. Basolateral LAT2 has a major role in the transepithelial flux of L-cystine in the renal proximal tubule cell line OK. *J. Am. Soc. Nephrol.* 14: 837-847.
4. Liu X., et al. 2003. CD98 and intracellular adhesion molecule I regulate the activity of amino acid transporter LAT2 in polarized intestinal epithelia. *J. Biol. Chem.* 278: 23672-23677.

CHROMOSOMAL LOCATION

Genetic locus: SLC7A8 (human) mapping to 14q11.2; Slc7a8 (mouse) mapping to 14 C3.

SOURCE

LAT2 (P-21) is a Protein A purified rabbit polyclonal antibody raised against synthetic peptide mapping to the internal region of LAT2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

LAT2 (P-21) is recommended for detection of LAT2 of mouse, rat, human and zebrafish 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).

LAT2 (P-21) is also recommended for detection of LAT2 in additional species, including equine, bovine and canine.

Suitable for use as control antibody for LAT2 siRNA (h): sc-105609, LAT2 siRNA (m): sc-146657, LAT2 shRNA Plasmid (h): sc-105609-SH, LAT2 shRNA Plasmid (m): sc-146657-SH, LAT2 shRNA (h) Lentiviral Particles: sc-105609-V and LAT2 shRNA (m) Lentiviral Particles: sc-146657-V.

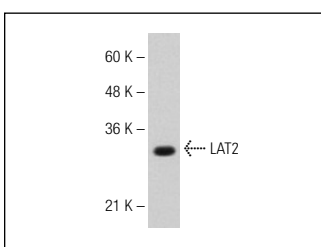
Molecular Weight of LAT2: 58 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 (P-21): sc-133726. Western blot analysis of LAT2 expression in Hep G2 whole cell lysate.

RESEARCH USE

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



Try **LAT2 (3F10): sc-293242**, our highly recommended monoclonal alternative to LAT2 (P-21).