SANTA CRUZ BIOTECHNOLOGY, INC.

LAT2 (N-12): sc-27583

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The Power to Question

BACKGROUND

L-amino acid transporter protein-2 (LAT2), a non-glycosylated membrane protein, complexes with CD98 to contribute to readsorption 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 β1 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. 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.
2. Pineda, M., et al. 1999. Identification of a membrane protein, LAT-2, 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.
3. Fernandez, E., et al. 2003. Basolateral LAT-2 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 LAT-2 in polarized intestinal epithelia. J. Biol. Chem. 278: 23672-23677.
5. 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.
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.

SOURCE

LAT2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LAT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27583 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

LAT2 (N-12) is recommended for detection of LAT2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Positive Controls: human intestinal epithelia, human kidney or human placenta.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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