

# LAT1 (N-14): sc-54228

## BACKGROUND

L-type amino acid transporter 1 (LAT1) is a multipass-membrane protein responsible for sodium-independent, high-affinity transport of large neutral amino acids. LAT1 functions as a disulfide-linked heterodimer with the amino acid transport protein CD98. LAT1 is expressed predominantly in adult lung and liver but is also expressed in brain, thymus, retina, testis, placenta, bone marrow and fetal liver. In the retina, LAT1 localizes to the blood-retinal-barrier (BRB) and mediates L-leucine transport from the blood to the retina. The devastating effects on the brain caused by phenylketonuria are due to the increased levels of LAT1 on the blood-brain-barrier in response to high concentrations of phenylalanine in the blood. LAT1 accepts the amino-acid related anticancer agent melphalan and plays a significant role in cell proliferation, differentiation, and invasion in esophageal squamous cell carcinoma.

## CHROMOSOMAL LOCATION

Genetic locus: SLC7A5 (human) mapping to 16q24.2; Slc7a5 (mouse) mapping to 8 E1.

## SOURCE

LAT1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of LAT1 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-54228 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

LAT1 (N-14) is recommended for detection of L-type amino acid transporter 1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LAT1 siRNA (h): sc-62555, LAT1 siRNA (m): sc-62556, LAT1 shRNA Plasmid (h): sc-62555-SH, LAT1 shRNA Plasmid (m): sc-62556-SH, LAT1 shRNA (h) Lentiviral Particles: sc-62555-V and LAT1 shRNA (m) Lentiviral Particles: sc-62556-V.

Molecular Weight (observed) of LAT1: 40 kDa.

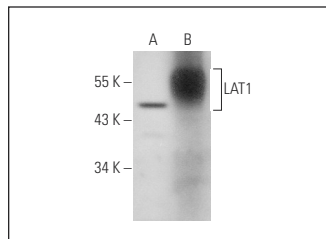
Molecular Weight of glycosylated LAT1: 45-55 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



LAT1 (N-14): sc-54228. Western blot analysis of LAT1 expression in SH-SY5Y whole cell lysate (A) and mouse spleen tissue extract (B).

## RESEARCH USE

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

## PROTOCOLS

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

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Try **LAT1 (D-10): sc-374232**, our highly recommended monoclonal alternative to LAT1 (N-14).