

LAT (V-19): sc-5321

BACKGROUND

T cell receptors activate immune responses by recognizing antigen and initiating a cascade of intracellular signal transduction events, eventually culminating in cell proliferation and differentiation. Both protein tyrosine kinases and PLC γ are activated by this event. LAT, or linker for activation of T cells, is an integral membrane protein that has been shown to associate with PLC γ 1, as well as GRB2 and the p85 subunit of PI 3-kinase. Binding of these signaling molecules to LAT is associated with phosphorylation of LAT by ZAP-70/Syk tyrosine kinases. LAT appears to play a role in activation of transcription mediated by AP-1 and NF-AT following stimulation of the T cell receptor, suggesting that it acts as a linker protein in T cell activation. LAT protein is palmitoylated, and this modification is required for its tyrosine phosphorylation and localization to glycolipid-enriched microdomains.

REFERENCES

- Weiss, A., et al. 1991. Signal transduction by the T cell antigen receptor. *Semin. Immunol.* 3: 313-324.
- Isakov, N., et al. 1994. The role of tyrosine kinases and phosphotyrosine-containing recognition motifs in regulation of the T cell-antigen receptor-mediated signal transduction pathway. *J. Leukoc. Biol.* 55: 265-271.

CHROMOSOMAL LOCATION

Genetic locus: LAT (human) mapping to 16p11.2 ; Lat (mouse) mapping to 7 F3.

SOURCE

LAT (V-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LAT of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-5321 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LAT (V-19) is recommended for detection of LAT of mouse, rat and 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)], 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 LAT siRNA (h): sc-35795, LAT siRNA (m): sc-35796, LAT shRNA Plasmid (h): sc-35795-SH, LAT shRNA Plasmid (m): sc-35796-SH, LAT shRNA (h) Lentiviral Particles: sc-35795-V and LAT shRNA (m) Lentiviral Particles: sc-35796-V.

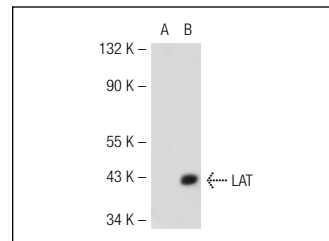
Molecular Weight of LAT: 36-38 kDa.

Positive Controls: LAT (m): 293T Lysate: sc-127084, Jurkat whole cell lysate: sc-2204 or BYDP whole cell lysate: sc-364368.

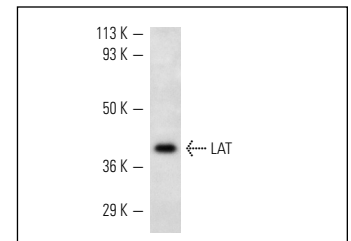
RECOMMENDED SECONDARY REAGENTS

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



LAT (V-19): sc-5321. Western blot analysis of LAT expression in non-transfected: sc-117752 (A) and mouse LAT transfected: sc-127084 (B) 293T whole cell lysates.



LAT (V-19): sc-5321. Western blot analysis of LAT expression in BYDP whole cell lysate.

SELECT PRODUCT CITATIONS

- Doherty, M., et al. 2010. Anergic CD4⁺ T cells form mature immunological synapses with enhanced accumulation of c-Cbl and Cbl- β . *J. Immunol.* 184: 3598-3608.
- Fiorelli, A., et al. 2011. Interplay between steroid receptors and neoplastic progression in sarcoma tumors. *J. Cell. Physiol.* 226: 2997-3003.

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 or our catalog for detailed protocols and support products.



Try **LAT (11B.12): sc-53550** or **LAT (B-3): sc-373706**, our highly recommended monoclonal alternatives to LAT (V-19).