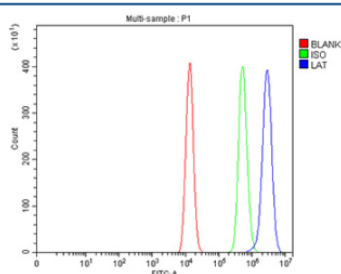


LAT Antibody / Linker for activation of T-cells family member 1 (FY12034)

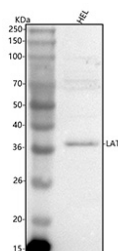
Catalog No.	Formulation	Size
FY12034	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	O43561
Applications	ELISA : 0.1-0.5ug/ml Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This LAT antibody is available for research use only.



Flow Cytometry analysis of HEL cells using anti-LAT antibody. Overlay histogram showing HEL cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-LAT antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of LAT using anti-LAT antibody. Lane 1: human HEL whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-LAT antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Expected molecular weight: 36-38 kDa.

Description

LAT antibody detects Linker for activation of T-cells family member 1, encoded by the LAT gene. Linker for activation of T-cells family member 1 is a transmembrane adaptor protein expressed in T cells and natural killer cells, where it serves as a central scaffold for antigen receptor signaling. LAT antibody provides researchers with a critical reagent for studying T cell receptor signaling, immune responses, and related diseases.

Linker for activation of T-cells family member 1 localizes to lipid rafts in the plasma membrane. Research using LAT antibody has shown that upon T cell receptor stimulation, LAT becomes tyrosine-phosphorylated by ZAP70. These phosphorylated residues recruit multiple signaling proteins, including GRB2, PLCG1, and GADS, forming a large signaling complex. This assembly drives calcium signaling, MAPK activation, and transcription of immune effector genes.

Studies with LAT antibody have demonstrated that LAT is indispensable for T cell development and activation. Knockout models lacking LAT fail to develop mature T cells, and mutations in LAT impair signaling pathways required for adaptive immunity. These findings emphasize its role as a master regulator of immune receptor signaling.

Dysregulation of LAT contributes to disease. Research using LAT antibody has revealed that mutations in the LAT gene cause severe combined immunodeficiency, characterized by absent or impaired T cell function. Aberrant LAT signaling has also been implicated in autoimmune disease, where inappropriate activation leads to tissue damage. In oncology, altered LAT expression influences T cell activity within the tumor microenvironment, affecting anti-tumor immunity.

LAT antibody is widely used in immunoprecipitation, immunoblotting, and flow cytometry. Immunoprecipitation identifies signaling complexes assembled at LAT, immunoblotting detects phosphorylated and total protein levels, and flow cytometry quantifies expression in T cell populations. These applications make LAT antibody indispensable in immunology research.

By supplying validated LAT antibody reagents, NSJ Bioreagents supports studies into T cell receptor signaling, immune development, and pathology. Detection of Linker for activation of T-cells family member 1 provides researchers with insight into how scaffold proteins regulate receptor signaling networks.

Application Notes

Optimal dilution of the LAT antibody should be determined by the researcher.

Immunogen

E.coli-derived human LAT recombinant protein (Position: H28-E235) was used as the immunogen for the LAT antibody.

Storage

After reconstitution, the LAT antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.