Datasheet for ABIN967594

anti-LAT antibody (pTyr226)

4 Images | 5 Publications

Go to Product page

Overview

Quantity:	0.1 mg
Target:	LAT
Binding Specificity:	pTyr226
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This LAT antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (Formalin-fixed Sections) (IHC (f))

Product Details

Brand:	BD Pharmingen™
Immunogen:	Phosphorylated Human LAT Peptide
Clone:	J96-1238-58-93
Isotype:	IgG1 kappa
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	LAT
Alternative Name:	LAT (LAT Products)
Background:	Engagement of the T cell receptor (TCR) induces signal transduction pathways that enhance gene transcription and cellular proliferation and differentiation. TCR ligation results in the recruitment and activation of multiple protein tyrosine kinases (PTKs), including lck, fyn, and ZAP70. Adaptor proteins, such as Grb2 and SLP-76, relay the signal to downstream effector molecules. LAT (linker for activation of T cells) is a substrate of the activated ZAP70 and functions to bridge the activated TCR and its associated PTKs with tyrosine kinase substrates. LAT is expressed as 36- and 38-kDa forms that result from post-translational modification, and as a 42-kDa form that results from alternative splicing. LAT is an integral membrane protein that is phosphorylated at five tyrosine sites upon TCR ligation. Following phosphorylation, LAT binds a number of important signaling molecules, including Grb2, Vav, PLCgamma1, and the p85 subunit of PI3K. Multiple studies have shown that functional LAT is required for T lymphocyte activation and thymocyte development. The J96-1238.58.93 monoclonal antibody recognizes the phosphorylated tyrosine 226 (pY226) of LAT, which is one of the phosphotyrosine sites required for binding Vav, Grb2, and Gads.
Molecular Weight:	38 kDa
Pathways:	TCR Signaling, Fc-epsilon Receptor Signaling Pathway

Application Details

Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	0.5 mg/mL
Buffer:	Aqueous buffered solution containing ≤0.09 % sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C
Storage Comment:	Store undiluted at 4°C.

Publications

Product cited in:

Janssen, Zhang: "Adaptor proteins in lymphocyte activation." in: **Current opinion in immunology**, Vol. 15, Issue 3, pp. 269-76, (2003) (PubMed).

Samelson: "Signal transduction mediated by the T cell antigen receptor: the role of adapter proteins." in: **Annual review of immunology**, Vol. 20, pp. 371-94, (2002) (PubMed).

Zhu, Janssen, Zhang: "Minimal requirement of tyrosine residues of linker for activation of T cells in TCR signaling and thymocyte development." in: **Journal of immunology (Baltimore, Md. : 1950)**, Vol. 170, Issue 1, pp. 325-33, (2002) (PubMed).

Lin, Weiss: "Identification of the minimal tyrosine residues required for linker for activation of T cell function." in: **The Journal of biological chemistry**, Vol. 276, Issue 31, pp. 29588-95, (2001) (PubMed).

Paz, Wang, Clarke, Lu, Stokoe, Abo: "Mapping the Zap-70 phosphorylation sites on LAT (linker for activation of T cells) required for recruitment and activation of signalling proteins in T cells." in: **The Biochemical journal**, Vol. 356, Issue Pt 2, pp. 461-71, (2001) (PubMed).

Images

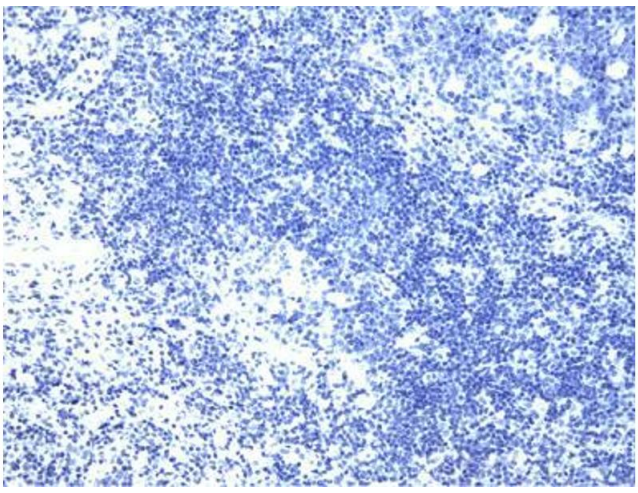
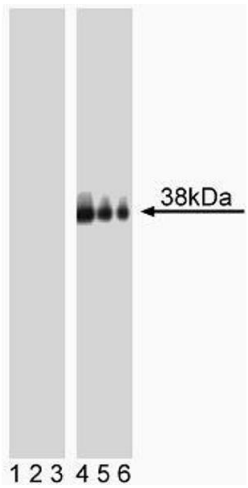


Image 1. Cells treated with a phosphatase to eliminate all phosphorylation



Western Blotting

Image 2. Western blot analysis of LAT (pY226) in human T lymphocytes. Lysates from control (lanes 1-3) and activated (anti-CD3, plus anti-CD28, lanes 4-6) Jurkat T-cell leukemia were probed with purified mAb J96-1238.58.93 at concentrations of 1.0 (lanes 1 and 4), 0.5 (lanes 2 and 5), and 0.025 µg/ml (lanes 3 and 6). LAT (pY226) is identified as a band of 38 kDa in the treated cells.

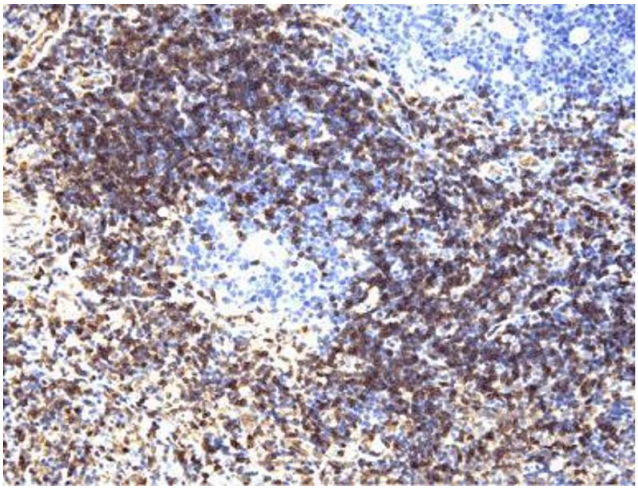


Image 3. LAT (pY226) staining on tonsil. Fresh human tonsil was incubated in 5 mM Pervanadate solution for 2 hours, then fixed in formalin and processed. Following antigen retrieval with BD Retrievagen A buffer, the sections were either left untreated (First Panel) or treated with a phosphatase to eliminate all phosphorylation (Second Panel). The tissue sections were stained with purified Mouse anti-LAT (pY226) with Hematoxylin counterstaining. Original magnification: 20X.

Please check the product details page for more images. Overall 4 images are available for ABIN967594.