Technical Data Sheet

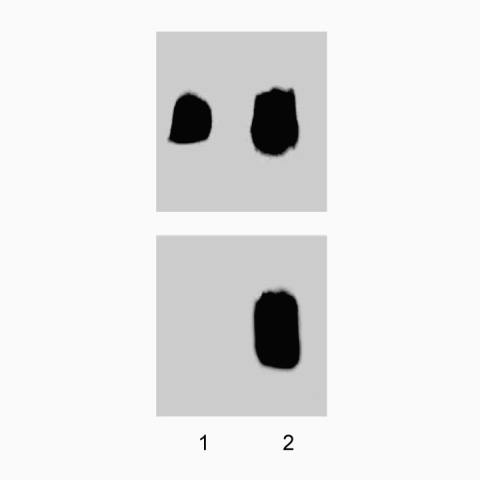
Purified Mouse Anti-Lck (pY505)

Product Information

Material Number:	**612391**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	4/Lck (pY505)
Immunogen:	Human Lck (pY505)
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Rat, Mouse
Target MW:	56 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Protein tyrosine phosphorylation is an essential step in the signal transduction cascade leading to T cell antigen receptor (TCR) activation. Lck is a protein kinase and a member of the src family of cytoplasmic protein-tyrosine kinases (PTKs). Members of this family have several common features: 1) unique N-terminal domains, 2) attachment to cellular membranes through a myristylated N-terminus, and 3) homologous SH2, SH3, and catalytic domains. The unique N-terminal domain of Lck interacts with the cytoplasmic tails of the CD4 and CD8 cell surface glycoproteins. CD4 and CD8 bind to surface MHC class II and class I molecules, respectively. Lck is regulated by both kinases and phosphatases. Autophosphorylation at Y394 leads to conformational changes in the catalytic domain, which induces kinase activity. Repression of Lck occurs via phosphorylation at Y505, located near the carboxy-terminus. Phosphorylation of this tyrosine site is mediated by the Csk family of PTKs. Upon phosphorylation at this site, Lck associates with the SH2 domain in the amino-terminus, thus keeping the protein biologically inactive. Lck activity and regulation is critical for activation and development of T cells.



Jurkat cells were either untreated (lane 1) or treated (lane 2) with Anti-CD3 for 15 minutes at 37°C. *The top panel was probed with Lck (cat. #610097) and the bottom panel was probed with Lck (pY505) (cat. #612390).*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

Application Notes

Application

Western blot	Routinely Tested
Flow cytometry	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
611755	Jurkat + Pervanadate Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.

References

Hardwick JS, Sefton BM. The activated form of the Lck tyrosine protein kinase in cells exposed to hydrogen peroxide is phosphorylated at both Tyr-394 and Tyr-505. *J Biol Chem.* 1997; 272(41):25429-25432.(Biology)

Lee-Fruman KK, Collins TL, Burakoff SJ. Role of the Lck Src homology 2 and 3 domains in protein tyrosine phosphorylation. *J Biol Chem.* 1996; 271(40):25003-25012.(Biology)

Wang B, Lemay S, Tsai S, Veillette A. SH2 domain-mediated interaction of inhibitory protein tyrosine kinase Csk with protein tyrosine phosphatase-HSCF. *Mol Cell Biol.* 2001; 21(4):1077-1088.(Biology)