Technical Data Sheet

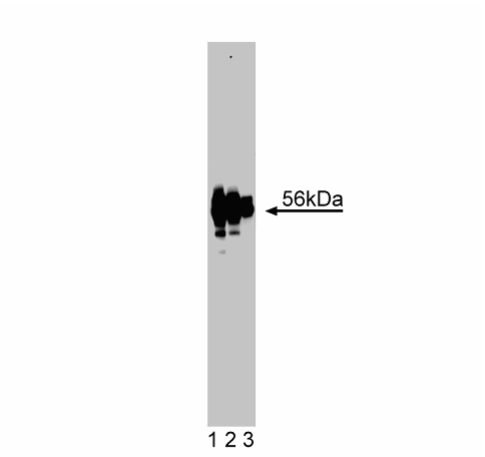
Purified Mouse Anti-Lck

Product Information

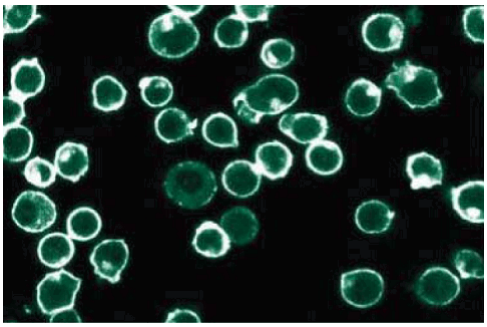
Material Number:	**610097**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	28/Lck
Immunogen:	Human Lck aa. 1-191
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat
Target MW:	56 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

The p56[lck] protein kinase is 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. Within the src family of PTKs, lck, fyn, and Yes are expressed in T cells. The unique N-terminal domain of p56[lck] interacts with the cytoplasmic tails of the CD4 and CD8 cell surface glycoproteins. CD4 and CD8 bind to surface major histocompatibility complex (MHC) class II and class I molecules, respectively. These complexes interact with the T cell antigen receptor (TCR) in the early stages of T cell activation. In addition, an activated lck kinase increases responsiveness of some T cell hybridomas to antigen. The phosphorylation status and, therefore, the activity of p56[lck] kinase is regulated by the CD45 tyrosine protein phosphatase. Several studies suggest that lck has many functions critical to T cell development and activation. Mice lacking a functional lck gene are drastically impaired in the production of T lymphocytes. Variants of the human Jurkat T cell line that do not express p56[lck] exhibit a diminished response to stimulation of the T cell receptor. Evidence suggests that lck is directly upstream from PI3-kinase in the signal transduction cascade in T cell activation.



Western blot analysis of Lck on jurkat lysate. *Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of Lck.*



Jurkat

Preparation and Storage

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

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunoprecipitation	Not Recommended
Immunohistochemistry	Not Recommended

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. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Horak ID, Gress RE, Lucas PJ, Horak EM, Waldmann TA, Bolen JB. T-lymphocyte interleukin 2-dependent tyrosine protein kinase signal transduction involves the activation of p56lck. *Proc Natl Acad Sci U S A.* 1991; 88(5):1996-2000.(Biology)

Maccalli C, Pisarra P, Vegetti C, Sensi M, Parmiani G, Anichini A. Differential loss of T cell signaling molecules in metastatic melanoma patients' T lymphocyte subsets expressing distinct TCR variable regions. *J Immunol.* 1999; 163(12):6912-6923.(Clone-specific: Flow cytometry)

Xu H, Littman DR. A kinase-independent function of Lck in potentiating antigen-specific T cell activation. *Cell.* 1993; 74(4):633-643.(Biology)

Zeyda M, Staffler G, Horejsi V, Waldhausl W, Stulnig TM. LAT displacement from lipid rafts as a molecular mechanism for the inhibition of T cell signaling by polyunsaturated fatty acids. *J Biol Chem.* 2002; 277(32):28418-28423.(Clone-specific: In vitro kinase assay, Western blot)

Zhou YJ, Magnuson KS, Cheng TP, et al. Hierarchy of protein tyrosine kinases in interleukin-2 (IL-2) signaling: activation of syk depends on Jak3; however, neither Syk nor Lck is required for IL-2-mediated STAT activation. *Mol Cell Biol.* 2000; 20(12):4371-4380.(Clone-specific: Immunoprecipitation, Western blot)