10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Phospho-LCK (Tyr394) Monoclonal Antibody

Mouse Monoclonal Antibody
Catalog # ABV11737

Product Information

Application	WB, E, IP
Primary Accession	P06239
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG
Calculated MW	58001

Additional Information

Gene ID	3932
Alias Symbol	Lck
Other Names	LCK , p56-LCK , p56lck , YT16 , pp58lck , LSK
Appearance	Colorless liquid
Formulation	100 ug (1mg/ml) of antibody in 0.01M Tris-HCl, pH 8.0, 0.15M NaCl, and 0.02% sodium azide.
Reconstitution & Storage	-20 °C
Background Descriptions	
Precautions	Phospho-LCK (Tyr394) Monoclonal Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	LCK
Function	Non-receptor tyrosine-protein kinase that plays an essential role in the selection and maturation of developing T-cells in the thymus and in the function of mature T-cells (PubMed:2470098). Plays a key role in T-cell antigen receptor (TCR)-linked signal transduction pathways (PubMed:2470098). Constitutively associated with the cytoplasmic portions of the CD4 and CD8 surface receptors (PubMed:2470098). Association of the TCR with a peptide antigen-bound MHC complex facilitates the interaction of CD4 and CD8 with MHC class II and class I molecules, respectively, thereby recruiting the associated LCK protein to the vicinity of the TCR-CD3 complex (PubMed:2470098). LCK then phosphorylates tyrosine residues within the immunoreceptor tyrosine-based activation motifs (ITAM) of the cytoplasmic

	tails of the TCR-gamma chains and CD3 subunits, initiating the TCR-CD3 signaling pathway (PubMed:2470098, PubMed:40592325). Once stimulated, the TCR recruits the tyrosine kinase ZAP70, that becomes phosphorylated and activated by LCK. Following this, a large number of signaling molecules are recruited, ultimately leading to lymphokine production. LCK also contributes to signaling by other receptor molecules. Associates directly with the cytoplasmic tail of CD2, which leads to hyperphosphorylation and activation of LCK. Also plays a role in the IL2 receptor-linked signaling pathway that controls the T-cell proliferative response. Binding of IL2 to its receptor results in increased activity of LCK. Is expressed at all stages of thymocyte development and is required for the regulation of maturation events that are governed by both pre-TCR and mature alpha beta TCR. Phosphorylates other substrates including RUNX3, PTK2B/PYK2, the microtubule-associated protein MAPT, RHOH or TYROBP. Interacts with FYB2 (PubMed:27335501).
Cellular Location	Cell membrane; Lipid-anchor; Cytoplasmic side Cytoplasm, cytosol. Note=Present in lipid rafts in an inactive form.
Tissue Location	Expressed specifically in lymphoid cells.

Background

Lck is a membrane associated tyrosine protein kinases. The Lck gene has been shown to undergo rearrangement and overexpression in some murine lymphomas. In human studies, it has been demonstrated that the Lck gene is localized to a site in the genome which undergoes frequent chromosomal abnormalities in lymphomas and neuroblastomas. Resting T cells contain high levels of the Lck protein and mRNA both of which decline upon activation of the T cells. These and other observations s ggest that alterations in Lck expression may contribute to the pathogenesis of some types of neoplastic disease.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.