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LCK Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52756

Product Information

Application	WB
Primary Accession	P06239
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	58001

Additional Information

Gene ID	3932
Other Names	LCK;Lck p56;LCK_HUMAN;Leukocyte C-terminal Src kinase;LSK;Lymphocyte cell specific protein tyrosine kinase;Lymphocyte cell-specific protein-tyrosine kinase;Lymphocyte Specific Protein Tyrosine Kinase;Membrane associated protein tyrosine kinase;Oncogene lck;P56 LCK;p56(LSTRA) protein tyrosine kinase;p56-LCK;p56lck;pp58 lck;pp58lck;Protein YT16;Proto oncogene tyrosine protein kinase LCK;Proto-oncogene Lck;Protooncogene tyrosine protein kinase LCK;T cell specific protein tyrosine kinase;T cell-specific protein-tyrosine kinase;T lymphocyte specific protein tyrosine kinase p56lck;Tyrosine-protein kinase Lck;YT 16;YT16.
Dilution	WB~~1:1000
Format	Purified mouse monoclonal in buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.09% (W/V) sodium azide, 50%,glycerol
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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. Plays a key role in T- cell antigen receptor (TCR)-linked signal transduction pathways. Constitutively associated with the cytoplasmic portions of the CD4 and CD8 surface receptors. 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. 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. 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

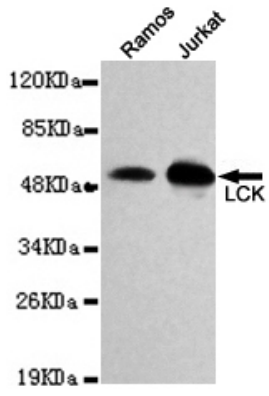
Non-receptor tyrosine-protein kinase that plays an essential role in the selection and maturation of developing T- cells in the thymus and in the function of mature T-cells. Plays a key role in T-cell antigen receptor (TCR)-linked signal transduction pathways. Constitutively associated with the cytoplasmic portions of the CD4 and CD8 surface receptors. 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. LCK then phosphorylates tyrosines 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. 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.

References

Koga Y.,et al.Eur. J. Immunol. 16:1643-1646(1986).
Perlmutter R.M.,et al.J. Cell. Biochem. 38:117-126(1988).
Rouer E.,et al.Gene 84:105-113(1989).
Wright D.D.,et al.Mol. Cell. Biol. 14:2429-2437(1994).
Vogel L.B.,et al.Biochim. Biophys. Acta 1264:168-172(1995).

Images

Western blot detection of LCK in Jurkat and Ramos cell lysates and using LCK mouse mAb (1:1000 diluted).Predicted band size: 58KDa.Observed band size: 58KDa.



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