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LCK Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2831c

Product Information

Application	IHC-P, FC, WB, E
Primary Accession	P06239
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	58001
Antigen Region	480-509

Additional Information

Gene ID	3932
Other Names	Tyrosine-protein kinase Lck, Leukocyte C-terminal Src kinase, LSK, Lymphocyte cell-specific protein-tyrosine kinase, Protein YT16, Proto-oncogene Lck, T cell-specific protein-tyrosine kinase, p56-LCK, LCK
Target/Specificity	This LCK antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 480-509 amino acids from the C-terminal region of human LCK.
Dilution	IHC-P~~1:100~500 FC~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	LCK Antibody (C-term) 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. 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.

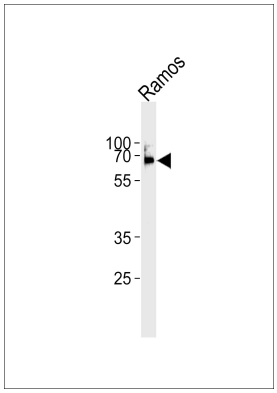
Background

LCK is a member of the Src family of protein tyrosine kinases (PTKs). This protein is a key signaling molecule in the selection and maturation of developing T-cells. It contains N-terminal sites for myristylation and palmitylation, a PTK domain, and SH2 and SH3 domains which are involved in mediating protein-protein interactions with phosphotyrosine-containing and proline-rich motifs, respectively. The protein localizes to the plasma membrane and pericentrosomal vesicles, and binds to cell surface receptors, including CD4 and CD8, and other signaling molecules.

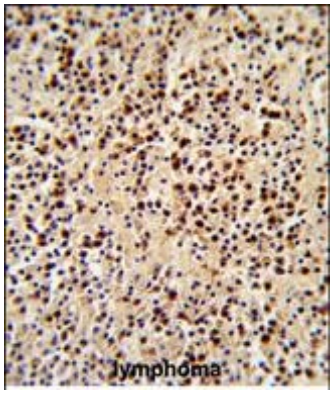
References

Paster,W., J. Immunol. 182 (4), 2160-2167 (2009) Ngai,J., Eur. J. Immunol. 38 (11), 3208-3218 (2008) Strasner,A.B., J. Immunol. 181 (5), 3706-3713 (2008)

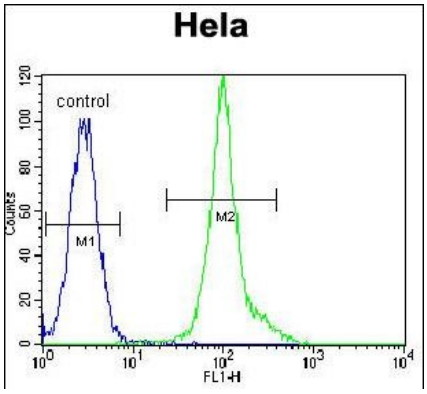
Images



LCK Antibody (C-term) (Cat. #AP2831c) western blot analysis in Ramos cell line lysates (35ug/lane).This demonstrates the LCK antibody detected the LCK protein (arrow).



Formalin-fixed and paraffin-embedded human lymphoma reacted with LCK Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



LCK Antibody (C-term) (Cat. #AP2831c) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Overexpression of Csk-binding protein/phosphoprotein associated with glycosphingolipid-enriched microdomains induces cluster of differentiation 59-mediated apoptosis in Jurkat cells.