

**LCK Antibody (N-term) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP7712a****Specification**

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**LCK Antibody (N-term) Blocking peptide - Product Information**Primary Accession [P06239](#)**LCK Antibody (N-term) Blocking peptide - 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**

The synthetic peptide sequence used to generate the antibody [AP7712a](/product/products/AP7712a) was selected from the N-term region of human LSK. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**LCK Antibody (N-term) Blocking peptide - 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](http://www.uniprot.org/citations/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.

### **LCK Antibody (N-term) Blocking peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

### **LCK Antibody (N-term) Blocking peptide - Images**

### **LCK Antibody (N-term) Blocking peptide - Background**

LSK, which belongs to the SRC subfamily of Tyr protein kinases, may participate in antigen-induced T-cell activation. It binds to phosphatidylinositol 3'-kinase (PI3K) from T lymphocytes through its SH3 domain and to the tyrosine phosphorylated form of KHDRBS1/p70 through its SH2 domain. LSK is bound to the cytoplasmic domain of either CD4 or CD8. This protein is involved in leukemias by a chromosomal translocation t(1;7)(p34;q34) which involves LCK and T-cell receptor beta chain (TCRB) genes.

### **LCK Antibody (N-term) Blocking peptide - References**

Harris, R.A., et al., Proteomics 2(2):212-223 (2002).Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).Boncristiano, M., et al., Eur. J. Immunol. 30(9):2632-2638 (2000).Tong, L., et al., J. Biol. Chem. 273(32):20238-20242 (1998).Yamaguchi, H., et al., Nature 384(6608):484-489 (1996).