ARG51824
anti-Lck phospho (Tyr505) antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

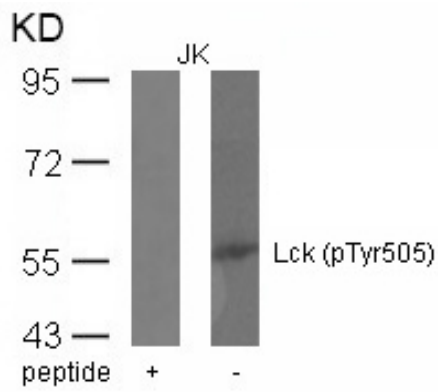|	
Product Description	Rabbit Polyclonal antibody recognizes Lck phospho (Tyr505)
Tested Reactivity	Hu, Ms
Tested Application	WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	Lck
Species	Human
Immunogen	Peptide sequence around phosphorylation site of tyrosine 505 (G-Q-Y(p)-Q-P) derived from Human Lck.
Conjugation	Un-conjugated
Alternate Names	T cell-specific protein-tyrosine kinase; Leukocyte C-terminal Src kinase; Protein YT16; p56-LCK; LSK; Proto-oncogene Lck; p56lck; pp58lck; Tyrosine-protein kinase Lck; YT16; IMD22; Lymphocyte cell-specific protein-tyrosine kinase; EC 2.7.10.2

Application Instructions

Application table	Application	Dilution
	WB	1:500 - 1:1000

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Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

Form	Liquid
Purification	Antibodies were produced by immunizing rabbits with KLH-conjugated synthetic phosphopeptide. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. In addition, non-phospho specific antibodies were removed by chromatogramphy using non-phosphopeptide.
Buffer	PBS (without Mg2+ and Ca2+, pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 16818 Mouse
	GeneID: 3932 Human
	Swiss-port # P06239 Human
	Swiss-port # P06240 Mouse
Gene Symbol	LCK
Gene Full Name	LCK proto-oncogene, Src family tyrosine kinase
Background	Tyrosine kinase that plays an essential role for the selection and maturation of developing T-cell in the thymus and in mature T-cell function. Is constitutively associated with the cytoplasmic portions of the CD4 and CD8 surface receptors and plays a key role in T-cell antigen receptor(TCR)-linked signal transduction pathways. 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, and thereby recruits the associated LCK to the vicinity of the TCR/CD3 complex. LCK then phosphorylates tyrosines residues within the immunoreceptor tyrosines-based activation motifs (ITAMs) in the cytoplasmic tails of the TCRgamma chains and CD3 subunits, initiating the TCR/CD3 signaling pathway. In addition, contributes to signaling by other receptor molecules. Associates directly with the cytoplasmic tail of CD2, and upon engagement of the CD2 molecule, LCK undergoes hyperphosphorylation and activation. Also plays a role in the IL2 receptor-linked signaling pathway that controls 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.
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 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. [UniProt]
Research Area	Immune System antibody; Signaling Transduction antibody; Src Family Protein Tyrosine Kinases antibody
Calculated Mw	58 kDa
PTM	Autophosphorylated on Tyr-394, increasing enzymatic activity, this site is dephosphorylated by PTN22. Phosphorylated on Tyr-505 by CSK, decreasing activity. Dephosphorylated by PTPRC/CD45. Dephosphorylation at Tyr-394 by PTPN2 negatively regulates T-cell receptor signaling. Myristoylation is required prior to palmitoylation. Palmitoylation regulates subcellular location.

Images

ARG51824 anti-Lck phospho (Tyr505) antibody WB image

Western blot: Extracts from JK cells stained with ARG51824 anti-Lck phospho (Tyr505) antibody and the same antibody preincubated with blocking peptide.
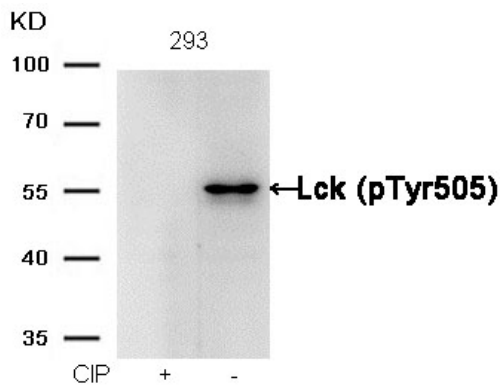
ARG51824 anti-Lck phospho (Tyr505) antibody WB image

Western blot: Extracts from 293 cells, treated with calf intestinal phosphatase (CIP), stained with ARG51824 anti-Lck phospho (Tyr505) antibody.