OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for MR227319

Lck (NM_001162432) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Lck (NM_001162432) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Lck
Synonyms:	Hck-3; Lsk; Lskt; p56; p56Lck
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

View online »

ORF Nucleotide Sequence:

>MR227319 representing NM_001162432
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGGGGCCTCTGAGCTGACGATCTCGGGGATCATGGGCTGTGTCTGCAGCTCAAACCCTGAAGATGACT
GGATGGAGAACATTGACGTGTGTGAAAACTGCCACTATCCCATAGTCCCACTGGACAGCAAGATCTCGCT
GCCCATCCGGAATGGCTCTGAAGTGCGGGACCCACTGGTCACCTATGAGGGATCTCTCCCACCAGCATCC
CCGCTGCAAGACAACCTGGTTATCGCCCTGCACAGTTATGAGCCCTCCCATGATGGAGACTTGGGCTTTG
AGAAGGGTGAACAGCTCCGAATCCTGGAGCAGAGCGGTGAGTGGTGGAAGGCTCAGTCCCTGACGACTGG
CCAAGAAGGCTTCATTCCCTTCAACTTCGTGGCGAAAGCAAACAGCCTGGAGCCTGAACCTTGGTTCTTC
AAGAATCTGAGCCGTAAGGACGCCGAGCGGCAGCTTTTGGCGCCCGGGAACACGCATGGATCCTTCCTGA
TCCGGGAAAGCGAAAGCACTGCGGGGTCCTTTTCCCTGTCGGTCAGAGACTTCGACCAGAACCAGGGAGA
AGTGGTGAAACATTACAAGATCCGTAACCTAGACAACGGTGGCTTCTACATCTCCCCTCGTATCACTTTT
CCCGGATTGCACGATCTAGTCCGCCATTACACCAACGCCTCTGATGGGCTGTGCACAAAGTTGAGCCGTC
CTTGCCAGACCCAGAAGCCCCAGAAACCATGGTGGGAGGACGAATGGGAAGTTCCCAGGGAAACACTGAA
GTTGGTGGAGCGGCTGGGAGCTGGCCAGTTCGGGGAAGTGTGGATGGGGTACTACAACGGACACACGAAG
GTGGCGGTGAAGAGTCTGAAACAAGGGAGCATGTCCCCCGACGCCTTCCTGGCTGAGGCTAACCTCATGA
AGCAGCTGCAGCACCCGCGGCTAGTCCGGCTTTATGCAGTGGTCACCCAGGAACCCATCTACATCATCAC
GGAATACATGGAGAACGGGAGCCTAGTAGATTTTCTCAAGACTCCCTCGGGCATCAAGTTGAATGTCAAC
AAACTTTTGGACATGGCAGCCCAGATTGCAGAGGGCATGGCGTTCATCGAAGAACAGAATTACATCCATC
GGGACCTGCGCGCCGCCAACATCCTGGTGTCTGACACGCTGAGCTGCAAGATTGCAGACTTTGGCCTGGC
GCGCCTCATTGAGGACAATGAGTACACGGCCCGGGAGGGGGCCAAATTTCCCATTAAGTGGACAGCACCA
GAAGCCATTAACTATGGGACCTTCACCATCAAGTCAGACGTGTGGTCCTTCGGGATCTTGCTTACAGAGA
TCGTCACCCACGGTCGAATCCCTTACCCAGGAATGACCAACCCTGAAGTCATTCAGAACCTGGAGAGAGG
CTACCGCATGGTGAGACCTGACAACTGTCCGGAAGAGCTGTACCACCTCATGATGCTGTGCTGGAAGGAG
CGCCCAGAGGACCGGCCCACGTTTGACTACCTTCGGAGTGTTCTGGATGACTTCTTCACAGCCACAGAGG
GCCAGTACCAGCCCCAGCCT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

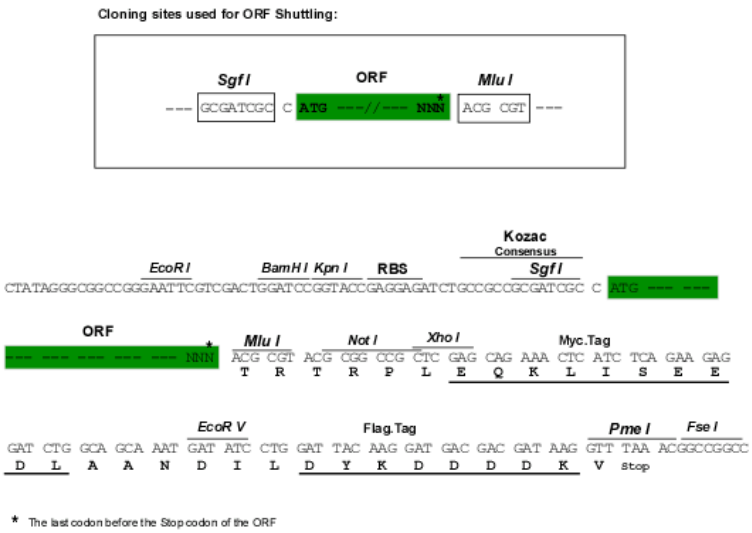
>MR227319 representing NM_001162432
Red=Cloning site Green=Tags(s)

MGASELTISGIMGCVCSSNPEDDWMENIDVCENCHYPIVPLDSKISLPIRNGSEVRDPLVTYEGSLPPAS
PLQDNLVIALHSYEPSHDGDLGFEKGEQLRILEQSGEWWKAQSLTTGQEGFIPFNFVAKANSLEPEPWFF
KNLSRKDAERQLLAPGNTHGSFLIRESESTAGSFSLSVRDFDQNQGEVVKHYKIRNLDNGGFYISPRITF
PGLHDLVRHYTNASDGLCTKLSRPCQTQKPQKPWWEDEWEVPRETLKLVERLGAGQFGEVWMGYYNGHTK
VAVKSLKQGSMSPDAFLAEANLMKQLQHPRLVRLYAVVTQEPIYIITEYMENGSLVDFLKTPSGIKLNVN
KLLDMAAQIAEGMAFIEEQNYIHRDLRAANILVSDTLSCKIADFGLARLIEDNEYTAREGAKFPIKWTAP
EAINYGTFTIKSDVWSFGILLTEIVTHGRIPYPGMTNPEVIQNLERGYRMVRPDNCPEELYHLMMLCWKE
RPEDRPTFDYLRSVLDDFFTATEGQYQPQP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001162432

ORF Size: 1560 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: NM_001162432.1, NP_001155904.1

RefSeq Size: 2074 bp

RefSeq ORF: 1563 bp

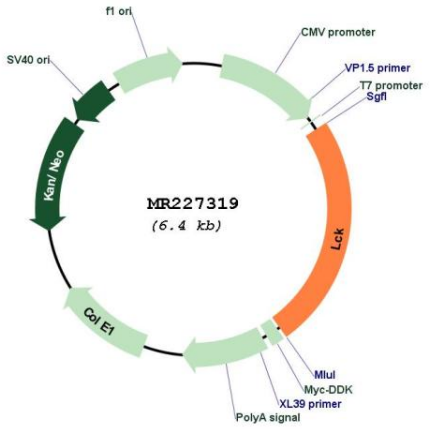
Locus ID: 16818

Cytogenetics: 4 63.26 cM

MW: 59.5 kDa

Gene Summary: 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 (By similarity). Interacts with UNC119; this interaction plays a crucial role in activation of LCK (By similarity). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR227319