

## Product datasheet for **MG208191**

### Lck (NM\_010693) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Lck (NM_010693) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Lck
Synonyms:	Hck-3; Lsk; Lskt; p56; p56Lck
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG208191 representing NM\_010693  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGCTGTGTCTGCAGCTCAAACCCTGAAGATGACTGGATGGAGAACATTGACGTGTGAAAACCTGCC  
 ACTATCCCATAGTCCACTGGACAGCAAGATCTCGCTGCCATCCGGAATGGCTCTGAAGTGCGGGACCC  
 ACTGGTACCTATGAGGGATCTCTCCACCAGCATCCCCGCTGCAAGACAACCTGGTTATCGCCCTGCAC  
 AGTTATGAGCCCTCCCATGATGGAGACTTGGGCTTTGAGAAGGGTGAACAGCTCCGAATCTGGAGCAGA  
 GCGGTGAGTGGTGAAGGCTCAGTCCCTGACGACTGGCCAAGAAGGCTTCATTCCCTTCAACTTCGTGGC  
 GAAAGCAAACAGCCTGGAGCCTGAACCTTGTTCTTCAAGAATCTGAGCCGTAAGGACGCCGAGCGGCAG  
 CTTTTGGCGCCCGGAACACGCATGGATCCTTCTGATCCGGAAAGCGAAAGCACTGCGGGGTCTTTTT  
 CCCTGTCGGTCAAGACTTCGACCAGAACCAGGAGAAGTGGTGAACATTACAAGATCCGTAACCTAGA  
 CAACGGTGGCTTCTACATCTCCCTCGTATCATTTCCTGGATTGCACGATCTAGTCCGCCATTACACC  
 AACGCCTCTGATGGGCTGTGCACAAAGTTGAGCCGTCCTTGCCAGACCCAGAAGCCCGAAACCATGGT  
 GGGAGGACGAATGGGAAGTCCAGGAAACACTGAAGTTGGTGGAGCGGCTGGGAGCTGGCCAGTTCGG  
 GGAAGTGTGGATGGGTTACTACAACGGACACGAAGGTGGCGGTGAAGAGTCTGAAACAAGGGAGCATG  
 TCCCCGACGCCTTCTGGCTGAGGCTAACCTCATGAAGCAGCTGCAGCACCCGCGGCTAGTCCGGCTTT  
 ATGCAGTGGTCAACCAGGAACCCATCTACATCATCACGAATACATGGAGAACGGGAGCCTAGTAGATTT  
 TCTCAAGACTCCCTCGGGCATCAAGTTGAATGTCAACAACTTTTGGACATGGCAGCCAGATTGCAGAG  
 GGCATGGCGTTTCAAGAAGATTGCAGACTTTGGCCTGGCGCGCTCATTGAGGACAATGAGTACACGGCCCG  
 GGAGGGGCCAAAATTTCCATTAAAGTGGACAGCACAGAAAGCCATTAAGTATGGGACCTTACCATCAAG  
 TCAGACGTGTGGTCTTCCGGATCTTGCTTACAGAGATCGTCACCCACGGTCAATCCCTTACCCAGGAA  
 TGACCAACCCTGAAGTATTGAGAACCTGGAGAGAGGCTACCGCATGGTGGAGACCTGACAACTGTCCGGA  
 AGAGCTGTACCACCTCATGATGCTGTGCTGGAAGGAGCGCCAGAGGACCGCCACGTTTGACTACCTT  
 CGGAGTGTCTGGATGACTTCTTACAGCCACAGAGGGCCAGTACCAGCCCCAGCCT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>MG208191 representing NM\_010693  
 Red=Cloning site Green=Tags(s)

MGCVCSSNPEDDWMENIDVCENCHYPIVPLDSKISLPIRNGSEVRDPLVTYEGSLPPASPLQDNLVIALH  
 SYEPSHDGDLGFEKGEQLRILEQSGEWWKAQSLTTGQEGFIPFNFVAKANSLEPEPWFFKNLSRKDAERQ  
 LLAPGNTHGSFLIRESESTAGSFSLSVRDFDQNGEVVKHYKIRNLDNGGFYISPRITFPGLHDLVRHYT  
 NASDGLCTKLSRPCQTQKPQPWWEDEWEVPRETLKLVRLGAGQFGEVWMGYNGHTKVAVKSLKQGS  
 SPDAFLAEANLMKQLQHPRLVRLYAVVTQEPIYIITEYMENGLVDLFTKTPSGIKLNVNKLDDMAAQIAE  
 GMAFIEEQNYIHRDLRAANILVSDTLCKIADFLARLIEDNEYTAREGAKFPIKWTAPEAINYGTFTIK  
 SDVWSFGILLTEIVTHGRIPYPGMTNPEVIQNLERGYRMVRPDCPEELYHLMMLCWKERPEDRPTFDYL  
 RSVLDDFFTATEGQYQPQP

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Kozac  
Consensus

EcoR I      BamH I Kpn I      RBS      Sgf I      Asc I

CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGGCCAGATCT

Hind III      Nhe I      Rsr II      Mlu I      Not I      Xho I      GFP Tag

CAAGCTTAACTAGCTAGCGGACCG    ACG CGT    ACG CGG    CCG CTC GAG    ATG GAG AGC GAC --- --- ---

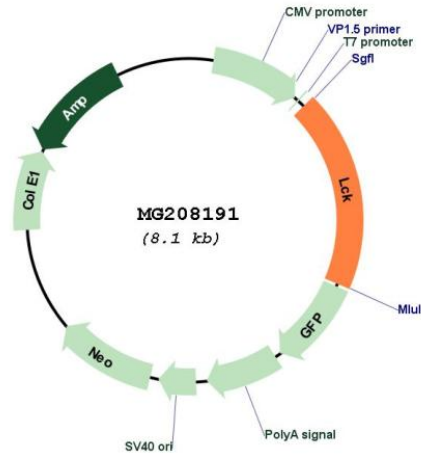
T    R    T    R    P    L    E    M    E    S    D    -    -    -

Pme I      Fse I

--- --- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT

- - - E E R V Stop

Plasmid Map:



ACCN: NM\_010693

ORF Size: 2168 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\\_010693.3](#), [NP\\_034823.1](#)

**RefSeq Size:** 2158 bp

**RefSeq ORF:** 1530 bp

**Locus ID:** 16818

**UniProt ID:** [P06240](#)

**Cytogenetics:** 4 63.26 cM

**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]