

Product datasheet for **RC218058**

LIM Kinase 1 (LIMK1) (NM_002314) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	LIM Kinase 1 (LIMK1) (NM_002314) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	LIMK1
Synonyms:	LIMK; LIMK-1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide
Sequence:

>RC218058 representing NM_002314
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGAGGTTGACGCTACTTTGTTGCACCTGGAGGGAAGAACGTATGGGAGAGGAAGGAAGCGAGTTGCCCG
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AGACTGCTTCAGGTGTTGTGACTGCAGTGCCTCCCTGTCGCACCACTACTATGAGAAGGATGGGCAGCTC
TTCTGCAAGAAGGACTACTGGGCCCGCTATGGCGAGTCCCTGCCATGGGTGCTCTGAGCAAATCACCAAGG
GACTGGTTATGGTGGCTGGGAGCTGAAGTACCACCCGAGTGTTCATCTGCCTCACGTGTGGACCTT
TATCGGTGACGGGACACCTACACGCTGGTGGAGCACTCCAAGCTGTACTGCGGGCACTGCTACTACCAG
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CCCTGGTGTCCATCCCAGCCTCATCTCATGGCAAGCGTGGACTTTCAGTCTCCATTGACCCCGCAGCG
CCCACCGGCTGTGGCACCGAGCACTCACACCGTCCGCGTCCAGGGAGTGGATCCGGGCTGCATGAGC
CCAGATGTGAAGAATCCATCCACGTCCGAGACCGGATCTTGAAATCAATGGCAGGCCATCCGAAATG
TGCCCTGGACGAGATTGACCTGCTGATTCAGGAAACCAGCCGCCTGCTCCAGCTGACCTCGAGCATGA
CCCTCACGATACACTGGGCCACGGGCTGGGGCCTGAGACCAGCCCTGAGCTCTCCGGCTATACTCCC
AGCGGGGAGGCGGGCAGCTCTGCCCGCAGAACTGTCTTGAGGAGCTGCAGCATCGACAGGTCTCCGG
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CTGCCGGCCACACCGCATCTCCGGCCGTCGGACCTCATCCACGGGGAGGTGCTGGGCAAGGGCTGCTTC
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ACGAGGAGACCCAGAGGACGTTCTCAAGGAGGTGAAGGTGATGCGATGCCTGGAACACCCCAACGTGCT
CAAGTTCATCGGGGTGCTCTACAAGACAAGAGGCTCAACTTCATCACTGAGTACATCAAGGGCGGCACG
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TCGCATCAGGGATGGCCTACCTCCACTCCATGAACATCATCCACCGAGACCTCAACTCCCACAACCTGCCT
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CAGCCTGAGGGCCTGCGGAGCCTCAAGAAGCCAGACCGCAAGAAGCGCTACACCGTGGTGGGCAACCCCT
ACTGGATGGCACCTGAGATGATCAACGGCCGAGCTATGATGAGAAGGTGGATGTGTTCTCTTTGGGAT
CGTCTGTGCGAGATCATCGGGCGGTGAACGCAGACCCTGACTACCTGCCCCGACCATGGACTTTGGC
CTCAACGTGCGAGATTCTGGACCGCTACTGCCCCCAAACTGCCCCCGAGCTTCTTTCCCATCACCG
TGCCTGTTGCGATCTGGACCCGAGAAGAGGCCATCCTTTGTGAAGCTGGAACACTGGCTGGAGACCT
CCGATGCACCTGGCCGGCCACCTGCCACTGGGCCACAGCTGGAGCAGCTGGACAGAGGTTTCTGGGAG
ACCTACGGCGCGGCGAGAGCGGACTGCCTGCCACCCTGAGGTCCCGAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC218058 representing NM_002314
 Red=Cloning site Green=Tags(s)

MRLTLLCCTWREERMGEEGSELPVCASCGQRIYDGOYLQALNADWHADCFRCCDCSASLSHQYYEKDQQL
 FCKKDYWARYGESCHGCSEQITKGLVMVAGELKYHPECFICLTCGTFIGDGDYTLVHESKLYCGHCYYQ
 TVVTPVIEQILPDSPGSHLPHTVTLVSIIPASSHGKRGLSVSIIDPPHGGPPCGTEHSHTVRVQGVDPGCMSP
 PDVKNLSIHVGDRILEINGTPIRNVPLDEIDLLIQETSRLQLTLEHDPHDTLGHGLGPETSPLSSPAYTP
 SGEAGSSARQKPVLRSCSIDRSPGAGSLGSPASQRKDLGRSESLRVVCRPHRIFRPSDLIHGEVLGKGC
 GQAIKVTHRETGEVMVMKELIRFDEETQRTFLKEVKVMRCLHHPNVLKFIVLYKDKRLNFITEYIKGGT
 LRGIKSMDSQYPWSQRVSFAKDIASGMAYLHSMNIIHRDLNSHNLVRENKNVVVADFLARLMVDEKT
 QPEGLRSLKKPDRKKRYTVGNPYWMAPEMINGRSYDEKVDVFSFGIVLCEIIGRVNADPDYLPRTMDFG
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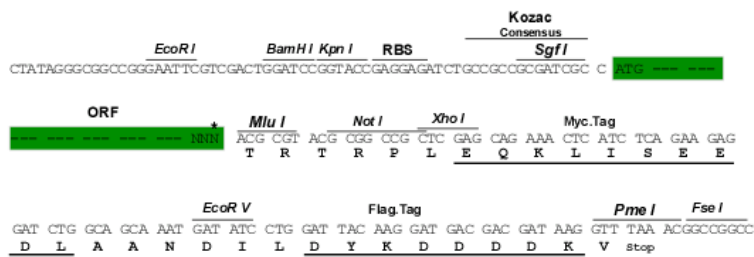
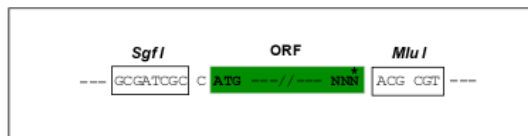
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6167_c10.zip

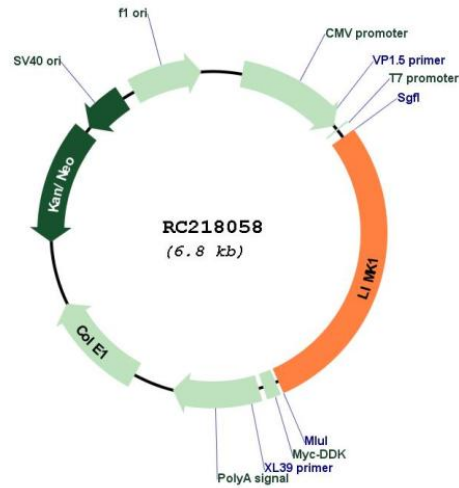
Restriction Sites: Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_002314

ORF Size: 1941 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:

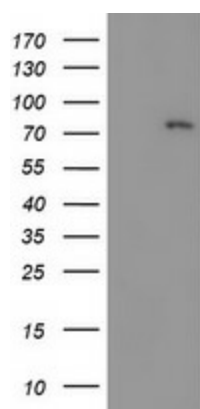
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store 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_002314.4](#)

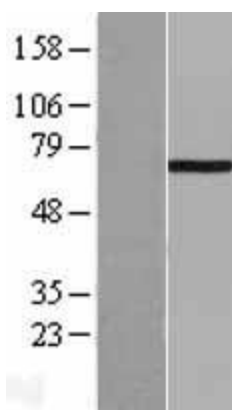
RefSeq Size: 3332 bp

RefSeq ORF:	1944 bp
Locus ID:	3984
UniProt ID:	P53667
Cytogenetics:	7q11.23
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Axon guidance, Fc gamma R-mediated phagocytosis, Regulation of actin cytoskeleton
MW:	72.4 kDa
Gene Summary:	<p>There are approximately 40 known eukaryotic LIM proteins, so named for the LIM domains they contain. LIM domains are highly conserved cysteine-rich structures containing 2 zinc fingers. Although zinc fingers usually function by binding to DNA or RNA, the LIM motif probably mediates protein-protein interactions. LIM kinase-1 and LIM kinase-2 belong to a small subfamily with a unique combination of 2 N-terminal LIM motifs and a C-terminal protein kinase domain. LIMK1 is a serine/threonine kinase that regulates actin polymerization via phosphorylation and inactivation of the actin binding factor cofilin. This protein is ubiquitously expressed during development and plays a role in many cellular processes associated with cytoskeletal structure. This protein also stimulates axon growth and may play a role in brain development. LIMK1 hemizyosity is implicated in the impaired visuospatial constructive cognition of Williams syndrome. Alternative splicing results in multiple transcript variants encoding distinct isoforms.[provided by RefSeq, Feb 2011]</p>

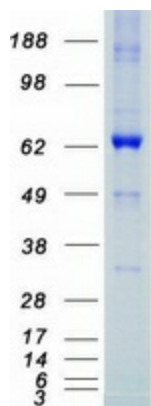
Product images:



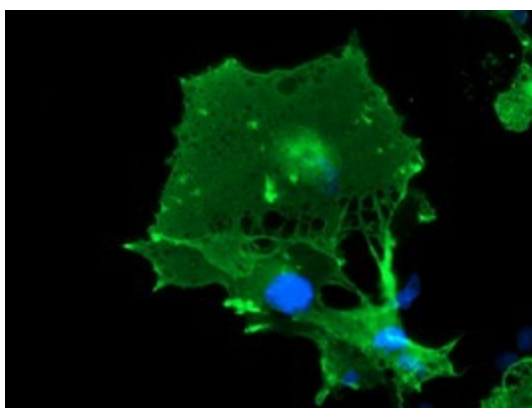
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY LIMK1 (Cat# RC218058, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-LIMK1 (Cat# [TA503012]). Positive lysates [LY400838] (100ug) and [LC400838] (20ug) can be purchased separately from OriGene.



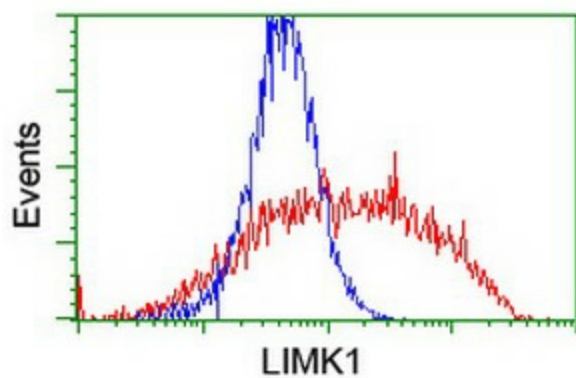
Western blot validation of overexpression lysate (Cat# [LY400838]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218058 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified LIMK1 protein (Cat# [TP318058]). The protein was produced from HEK293T cells transfected with LIMK1 cDNA clone (Cat# RC218058) using MegaTran 2.0 (Cat# [TT210002]).



Anti-LIMK1 mouse monoclonal antibody ([TA503012]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY LIMK1 (RC218058).



HEK293T cells transfected with either RC218058 overexpress plasmid (Red) or empty vector control plasmid (Blue) were immunostained by anti-LIMK1 antibody ([TA503012]), and then analyzed by flow cytometry.