

Product datasheet for **RG218058**

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:	TurboGFP
Symbol:	LIM Kinase 1
Synonyms:	LIMK; LIMK-1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG218058 representing NM_002314
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCCGCATCGCC

ATGAGGTTGACGCTACTTTGTTGCACCTGGAGGGAAGAACGTATGGGAGAGGAAGGAAGCGAGTTGCCCG
 TGTGTGCAAGCTGCGGCCAGAGGATCTATGATGGCCAGTACCTCCAGGCCCTGAACGCGGACTGGCACGC
 AGACTGCTTCAGGTGTTGTGACTGCAGTGCCTCCCTGTCGCCACCACTACTATGAGAAGGATGGGAGCTC
 TTCTGCAAGAAGGACTACTGGGCCCCTATGGCGAGTCTGCCATGGGTGCTCTGAGCAAATCACCAAGG
 GACTGGTTATGGTGGCTGGGAGCTGAAGTACCACCCGAGTGTTCATCTGCCTCACGTGTGGACCTT
 TATCGGTGACGGGACACCTACACGCTGGTGGAGCACTCCAAGCTGTACTGCGGGCACTGCTACTACCA
 ACTGTGGTGACCCCGTCATCGAGCAGATCCTGCCTGACTCCCCTGGCTCCCACCTGCCACACCGTCA
 CCCTGGTGTCCATCCCAGCCTCATCTCATGGCAAGCGTGGACTTTCAGTCTCCATTGACCCCCCGCACGG
 CCCACCGGCTGTGGACCGAGCACTCACACCGTCCGCGTCCAGGGAGTGGATCCGGGCTGCATGAGC
 CCAGATGTGAAGAATTCATCCACGTCCGAGACCGGATCTTGAAATCAATGGCAGCGCCATCCGAAATG
 TGCCCCTGGACGAGATTGACCTGCTGATTCAAGAAACAGCCGCCTGCTCCAGCTGACCTCGAGCATGA
 CCCTCACGATACACTGGGCCACGGGCTGGGGCCTGAGACCAGCCCCCTGAGCTCTCCGGCTTATACTCCC
 AGCGGGGAGGCGGGCAGCTCTGCCCGCAGAACTGTCTTGAGGAGCTGCAGCATCGACAGGTCTCCGG
 GCGCTGGCTCACTGGGCTCCCGGCCCTCCAGCGCAAGGACCTGGGTGCTCTGAGTCCCTCCGCGTAGT
 CTGCCGGCCACACCGCATCTTCCGGCCGTCGGACCTCATCCACGGGGAGGTGCTGGGCAAGGGCTGCTTC
 GGCCAGGCTATCAAGGTGACACACCGTGAAGGAGGTGAAGGTGATGCGATGCCTGGAACACCCCAACGTGCT
 CAAAGTTTCATCGGGGTGCTCTACAAGGACAAGAGGCTCAACTTCATCACTGAGTACATCAAGGGCGGCACG
 CTCCGGGGCATCATCAAGAGCATGGACAGCCAGTACCATGGAGCCAGAGAGTGAGCTTTGCCAAGGACA
 TCGCATCAGGGATGGCCTACCTCCACTCCATGAACATCATCCACCGAGACCTCAACTCCCACAACGCTCT
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 CAGCCTGAGGGCTGCGGAGCCTCAAGAAGCCAGACCGCAAGAAGCGCTACACCGTGGTGGGCAACCCCT
 ACTGGATGGCACCTGAGATGATCAACGGCCGAGCTATGATGAGAAGGTGGATGTGTTCTCTTTGGGAT
 CGTCTGTGCGAGATCATCGGGCGGTGAACGAGACCTGACTACCTGCCCCGACCATGGACTTTGGC
 CTAACGTGCGAGGATCCTGGACCGCTACTGCCCCCAAACGCCCCCGAGCTTCTTTCCCATCACCG
 TCGCTGTGCGATCTGGACCCGAGAAGAGGCCATCCTTTGTGAAGCTGGAACACTGGCTGGAGACCT
 CCGCATGCACCTGGCCGGCCACCTGCCACTGGGCCACAGCTGGAGCAGCTGGACAGAGGTTTCTGGGAG
 ACCTACCGGCGCGCGAGAGCGGACTGCCTGCCACCCCTGAGGTCCCCGAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

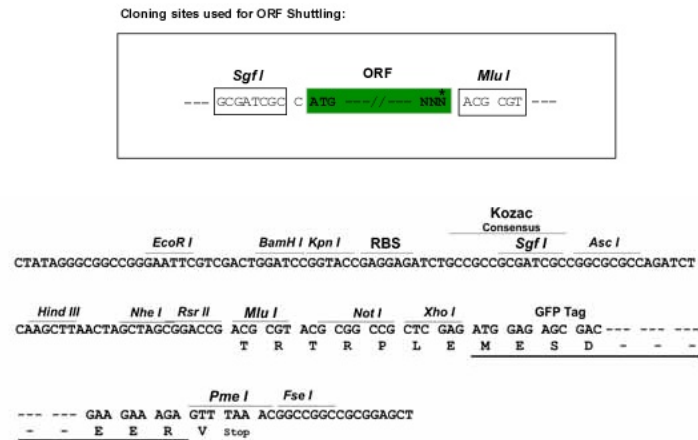
>RG218058 representing NM_002314
 Red=Cloning site Green=Tags(s)

MRLTLLCCTWREERMGEESGSELPVCASCQRIYDQYLQALNADWHADCFRCCDCSASLSHQYYEKDGQL
 FCKKDYARYGESCHGCSEQITKGLVMVAGELKYHPECFICLTGTFIGDGDYTLVEHSKLYCGHCYYQ
 TVVTPVIEQILPDSPGSHLPHTVTLVSIPASSHGKRLSVSIDPPHPPGCGTEHSHTVRVQGVDPGCM
 PDVKNSIHVGDRILEINGTPIRNVPLDEIDLLIQETSRLQLTLEHDPHDTLGHGLGPETSPLSSPAYTP
 SGEAGSSARQKPVLRSCIDRSPGAGSLGSPASQRKDLGRSESLRVVCRPHRIFRPSDLIHGEVLKGCF
 GQAIKVTHRETGEVMVMKELIRFDEETQRTFLKEVKVMRCLEHPNVLKFIGVLYKDKRLNFITEYIKGGT
 LRGIKSMDSQYPWSQRVSAFKDIASGMAYLHSMNIHRDLNSHNLVRENKNVVVADFGLARLMVDEKT
 QPEGLRSLKKPKRKYTVVGNPYWMAPEMINGRSYDEKVDVFSFGIVLCEIIGRVNADPDYLPRTMDFG
 LNVRGFLDRYCPNCPSPFFPITVRCCDLPEKRPFSVKLEHWLETLRMHLAGHLPLGPQLEQLDRGFWE
 TYRRGESGLPAHPEVPD

TRTRPLE – GFP Tag – V

Restriction Sites: SgfI-MluI

Cloning Scheme:



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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

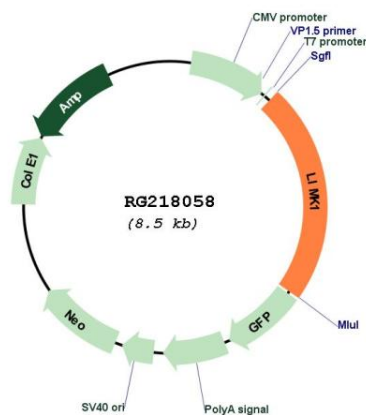
RefSeq: [NM_002314.2](#), [NP_002305.1](#)

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
Gene Summary:	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]

Product images:



Circular map for RG218058