

## Product datasheet for **RC217705**

### LIM kinase 2 (LIMK2) (NM\_005569) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	LIM kinase 2 (LIMK2) (NM_005569) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	LIM kinase 2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC217705 representing NM\_005569  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCGCGCTGGCGGGTGAAGATGTCTGGAGGTGTCAGGCTGTGGGACCACATTGCTCCAAGCCAGA  
 TATGGTACAGGACTGTCAACGAAACCTGGCACGGCTCTTGCTTCCGGTGTTCAGAATGCCAGGATCCCT  
 CACCAACTGGTACTATGAGAAGGATGGGAAGCTCTACTGCCCAAGGACTACTGGGGGAAGTTTGGGGAG  
 TTCTGTATGGGTGCTCCCTGCTGATGACAGGGCCTTTTATGGTGGCTGGGGAGTTCAAGTACCACCCAG  
 AGTGCTTTGCCTGTATGAGCTGCAAGGTGATCATTGAGGATGGGGATGCATATGCACTGGTGACGATGC  
 CACCCTACTGTGGGAAGTGCCACAATGAGGTGGTGTGGCACCCATGTTTGGAGACTCTCCACAGAG  
 TCTGTTCCAGGAGCAGCTGCCCTACTCTGTACGCTCATCTCCATGCCGGCCACCCTGAAGGCAGGCGGG  
 GCTTCTCCGTGTCGGTGGAGAGTGCCTGCTCAACTACGCCACCCTGTGCAAGTAAAGAGGTCAACCG  
 GATGCACATCAGTCCCAACAATCGAAACGCCATCCACCCTGGGGACCGCATCCTGGAGATCAATGGGACC  
 CCCGTCGCCACACTTCGAGTGGAGGAGGTGGAGGATGCAATTAGCCAGACGAGCCAGACACTTCAGCTGT  
 TGATTGAACATGACCCCGTCTCCCAACGCCTGGACCAGCTGCGGGTGGAGGCCCGGCTCGCTCCTACAT  
 GCAGAATGCCGGACACCCACGCCCTCAGCACCTGGACACCAAGGAGAATCTGGAGGGGACACTGAGG  
 AGACGTTCCCTAAGGCGCAGTAACAGTATCTCCAAGTCCCCTGGCCCCAGCTCCCCAAAGGAGCCCTGC  
 TGTTCCAGCCGTGACATCAGCCGCTCAGAATCCCTTCGTTGTTCCAGCAGTATTCACAGCAGATCTCCG  
 GCCCTGTGACCTAATCCATGGGGAGTCTGGGAAGGGCTTCTTTGGGCAGGCTATCAAGGTGACACAC  
 AAAGCCACGGGCAAAGTGATGGTCATGAAAGAGTTAATTCGATGTGATGAGGAGACCCAGAAAACCTTTTC  
 TGACTGAGGTGAAAGTGATGCGCAGCCTGGACCACCCAATGTGCTCAAGTTCATTGGTGTGCTGTACAA  
 GGATAAGAAGCTGAACCTGCTGACAGAGTACATTGAGGGGGCACACTGAAGGACTTTCTGCGCAGTATG  
 GATCCGTTCCCTGGCAGCAGAAGTTCAGGTTTGCCAAAGGAATCGCCTCCGGAATGGCCTATTTGCACT  
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 AAGAAACGCACCTTGCGCAAGAACGACCGCAAGAAGCGCTACACGGTGGTGGGAAACCCCTACTGGATGG  
 CCCCTGAGATGCTGAACGGAAAGAGCTATGATGAGACGGTGGATATCTTCTCCTTTGGGATCGTTCTCTG  
 TGAGATCATTGGGCAGGTGTATGCAGATCCTGACTGCCTTCCCCGAACACTGGACTTTGGCCTCAACGTG  
 AAGCTTTTCTGGGAGAAGTTTGTCCCACAGATTGTCCCCGGCCTTCTTCCCGTGGCCGCATCTGCT  
 GCAGACTGGAGCCTGAGAGCAGACCAGCATTCTCGAAATTGGAGGACTCCTTTGAGGCCCTCTCCCTGTA  
 CCTGGGGGAGCTGGGCATCCCGCTGCCTGCAGAGCTGGAGGAGTTGGACCACACTGTGAGCATGCAGTAC  
 GGCTGACCCGGGACTCACCTCCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC217705 representing NM\_005569  
Red=Cloning site Green=Tags(s)

```
MSALAGEDVWRCPGCGDHIAPSQIWRVTVNETWHGSCFRCSECQDSL TNWYYEKDGKLYCPKDYWGKFGE
FCHGCSLLMTGPFMVAGEFKYHPECFACMSCKVIEDGDAYALVQHATLYCGKCHNEVVLAPMFERLSTE
SVQEQLPYSVTLISMPATTEGRRGFVSVVESACSNYATTVQVKEVNRMHISPNNRNAIHPGDRILEINGT
PVRTLREEVEDAISQTSQTLQLLIEHDPVSQRDLQLRLEARLAPHMQNAGHPHALSTLDTKENLEGLTLR
RRSLRRSNSISKSPGPSSPKEPLLF SRDISRSESLRCSSSYSQQIFRPCDLIHGEVLGKGFQAIKVTH
KATGKVMVMKELIRCDEETQKTFLETVKVMRSLDHPNVLKFIGVLVKDKKLNLLTEYIEGGTLKDFLRSM
DPFPWQKVRFAKGIASGMAYLHSMCIHRDLNSHNCLIKLTKTVVVDVDFGLSRLIVEERKRAPMEKATT
KKRTLKRNDRKKRYTVVGNPYWMAPEMLNGKSYDETVDIFSGIIVLCEIIGQVYADPDCLPRTLDFGLNV
KLFWEKFVPTDCPPAFFPLAAICCRLEPESRPAFSKLEDSFEALSLYLGELGIPLPAELEELDHTVSMQY
GLTRDSPP
```

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_005569

**ORF Size:** 1914 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\\_005569.2](#)

**RefSeq Size:** 3701 bp

**RefSeq ORF:** 1917 bp

**Locus ID:** 3985

**UniProt ID:** [P53671](#)

**Cytogenetics:** 22q12.2

**Domains:** pkinase, TyrKc, PDZ, LIM, S\_TKc

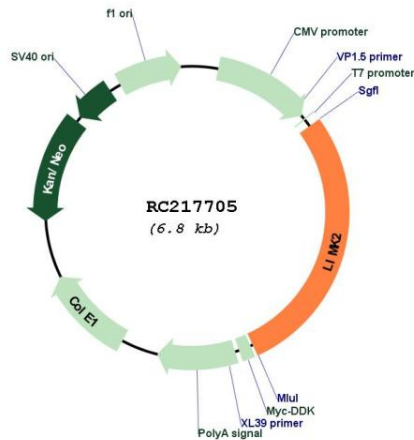
**Protein Families:** Druggable Genome, Protein Kinase

**Protein Pathways:** Axon guidance, Fc gamma R-mediated phagocytosis, Regulation of actin cytoskeleton

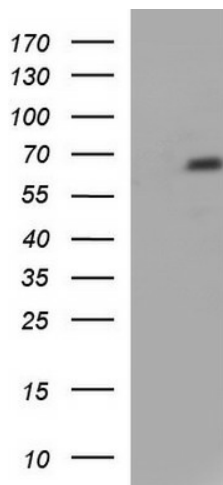
**MW:** 72.1 kDa

**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. The protein encoded by this gene is phosphorylated and activated by ROCK, a downstream effector of Rho, and the encoded protein, in turn, phosphorylates cofilin, inhibiting its actin-depolymerizing activity. It is thought that this pathway contributes to Rho-induced reorganization of the actin cytoskeleton. At least three transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Product images:



Circular map for RC217705



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY LIMK2 (Cat# RC217705, 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-LIMK2(Cat# [TA590208]).