

Product datasheet for **RG220400**

LIM kinase 2 (LIMK2) (NM_016733) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	LIM kinase 2 (LIMK2) (NM_016733) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	LIM kinase 2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG220400 representing NM_016733
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGGGAGTTACTTGTCTAGTCCCGCTTACTTACCTCCAGAGACCTGTTTCGGTGTTCAGAATGCCAGG
 ATTCCCTCACCACCTGGTACTATGAGAAGGATGGGAAGCTCTACTGCCCAAGGACTACTGGGGGAAGTT
 TGGGGAGTTCTGTCTATGGGTGCTCCCTGTCTGATGACAGGGCCTTTTATGGTGGCTGGGGAGTTCAAGTAC
 CACCCAGAGTGTCTTGCCTGTATGAGCTGCAAGGTGATCATTGAGGATGGGGATGCATATGCACTGGTGC
 AGCATGCCACCCTCTACTGTGGGAAGTCCACAATGAGGTGGTGTGGCACCCATGTTTGGAGACTCTC
 CACAGAGTCTGTTGAGGAGCAGCTGCCCTACTCTGTACGCTCATCTCCATGCCGGCCACCCTGAAGGC
 AGGCGGGCTTCCGTGTCCGTGGAGAGTGCCTGCTCCAACACGCCACTGTGCAAGTGAAGAGG
 TCAACCGGATGCACATCAGTCCCAACAATCGAAACGCCATCCACCCTGGGACCGCATCTCGGAGATCAA
 TGGGACCCCGTCCGCACACTTCGAGTGGAGGAGTGGAGGATGCAATTAGCCAGACGAGCCAGACACTT
 CAGCTGTTGATTGAACATGACCCCGTCTCCAACGCCCTGGACCAGCTGCGGCTGGAGGCCCGGCTCGCTC
 CTCACATGCAGAATGCCGGACACCCACGCCCTCAGCACCTGGACACCAAGGAGAATCTGGAGGGGAC
 ACTGAGGAGACGTTCCCTAAGGCGCAGTAAACAGTATCTCCAAGTCCCCTGGCCCCAGCTCCCCAAAGGAG
 CCCCTGTCTTACGCCGTGACATCAGCCGCTCAGAATCCCTTCGTTGTTCCAGCAGCTATTCACAGCAGA
 TCTTCCGGCCCTGTGACCTAATCCATGGGGAGGTCTGGGGAAGGGCTTCTTTGGCAGGCTATCAAGGT
 GACACACAAGCCACGGGCAAAGTGTGGTTCATGAAAGAGTTAATTCGATGTGATGAGGAGACCCAGAAA
 ACTTTTCTGACTGAGGTGAAAGTGTGCGCAGCCTGGACCACCCCAATGTGCTCAAGTTCATTGGTGTGC
 TGTACAAGGATAAGAAGCTGAACCTCTGACAGAGTACATTGAGGGGGGCACACTGAAGGACTTTTCTGCG
 CAGTATGGATCCGTTCCCTGGCAGCAGAAGGTACAGTTTGCCTAAGGAATCGCCTCCGGAATGGCCTAT
 TTGCACCTATGTGCATCATCCACCGGGATCTGAACTCGCACAACCTGCCTCATCAAGTTGGACAAGACTG
 TGGTGGTGGCAGACTTTGGGCTGTACGGCTCATAGTGAAGAGAGGAAAAGGGCCCCATGGAGAAGGC
 CACCACCAAGAAACGCACCTTGCACAAGAACGCCGCAAGAAGCGCTACACGGTGGTGGGAAACCCCTAC
 TGGATGGCCCTGAGATGCTGAACGAAAGAGCTATGATGAGACGGTGGATATCTTCTCTTTGGGATCG
 TTCTCTGTGAGATCATTGGCAGGTGTATGCAGATCCTGACTGCCTTCCCGAACACTGGACTTTGGCT
 CAACGTGAAGCTTTTCTGGGAGAAGTTTGTCCACAGATTGTCCCGGCCCTTCTCCCGCTGGCCGCC
 ATCTGCTGCAGACTGGAGCCTGAGAGCAGACCAGCATTCTCGAAATTGGAGGACTCTTTGAGGCCCTCT
 CCCTGTACCTGGGGAGCTGGGCATCCCGCTGCCTGCAGAGCTGGAGGAGTTGGACCACACTGTGAGCAT
 GCAGTACGGCCTGACCCGGGACTCACCTCC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG220400 representing NM_016733
 Red=Cloning site Green=Tags(s)

MGSYLSVPAYFTSRDLFRSECQDSL TNWYYEKDGKLYCPKDYWGKGEFCHGCSLLMTGPFMVAGEFKY
 HPECFACMSCKV IIEDGDAYALVQHATLYCGKCHNEVVLAPMFERLSTESVQEQLPYSVTLISMPATTEG
 RRFVS SVS VESACSNYATTVQVKEVNRMHISPNRRIHPGDRILEINGTPVRTL RVEEVEDAISQTSQTL
 QLLIEHDPVSQRDLQRLRL EARLAPHMQNAGHPHALSTLDTKENLEGLRRLRSLRNSISKSPGSSPKE
 PLLFSRDISRSESLRCSYSYQQIFRPCDLIHGEVLGKFFGQA IKVTHKATGKVMVMKELIRCDEETQK
 TFLTEVKVMRSLDHPNVLKFIGVLYKDKLNLLEYIEGGTLKDFLRSMDFPFWQKVRFAKGIASGMAY
 LHSMCI IHRDLNHNCLIKLDKTVVADFGLSRLIVEERKRAPMEKATTKRTRLRKNDRKKRYTVVGNPY
 WMAPEMLNGKSYDETVDIFSFGIVLCEIIGQVYADPDLPRTLDFGLNVKLFWEKFPVPTDCPPAFFPLAA
 ICCRLEPESRPAFSKLEDSFEALS LYL GELGIPLPAELEELEDHTVSMQYGLTRDSPP

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_016733

ORF Size: 1851 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_016733.3](#)

RefSeq Size: 3848 bp

RefSeq ORF: 1854 bp

Locus ID: 3985

UniProt ID: [P53671](#)

Cytogenetics: 22q12.2

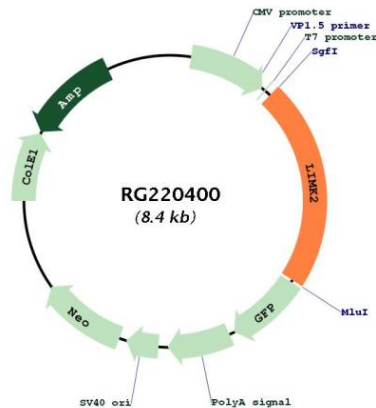
Domains: pkinase, TyrKc, PDZ, LIM, S_TKc

Protein Families: Druggable Genome, Protein Kinase

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

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 RG220400