

## Product datasheet for RC218513

### Myosin light chain kinase (MYLK) (NM\_053031) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Myosin light chain kinase (MYLK) (NM_053031) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Myosin light chain kinase
Synonyms:	AAT7; KRP; MLCK; MLCK1; MLCK108; MLCK210; MMIHS; MMIHS1; MSTP083; MYLK1; smMLCK
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC218513 representing NM_053031 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCCGCATCGCC

ATGGCAATGATCTCAGGGCTCAGTGGCAGGAAATCCTCAACAGGGTCACCAACCAGCCCGCTCAATGCAG  
AAAACTAGAATCTGAAGAAGATGTGTCCCAAGCTTCTTGGAGCTGTTGCTGAGGAAAAGCCTCATGT  
AAAACCTATTTCTCTAAGACATTGCGATTTAGAAGTTGTGGAGGAAGTGTCTAGATTTGACTGC  
AAGATTGAAGGATACCCAGACCCGAGGTTGTCTGGTTCAAAGATGACCAGTCAATCAGGGAGTCCCGCC  
ACTTCCAGATAGACTACGATGAGGACGGGAAGTCTCTTAATTATTAGTGATGTTGCGGGGATGACGA  
TGCCAAGTACACCTGCAAGGCTGTCAACAGTCTTGGAGAAGCCACCTGCACAGCAGAGCTCATTGTGGAA  
ACGATGGAGGAAGGTGAAGGGGAAGGGGAAGAGGAAGAAGAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:	>RC218513 representing NM_053031 Red=Cloning site Green=Tags(s)
-------------------	--

MAMISGLSGRKSSTGSPTSPLNAEKLSEEDVVSQAFLEAVAEKPHVKPYFSKTIIRDLEVVEGSAARFDC  
KIEGYDPPEVWFKDDQSIRESRHFQIDYDEDGNCSLIISDVCGDDDAKYTKAVNSLGEATCTAELIVE  
TMEEGEGEGEEEE

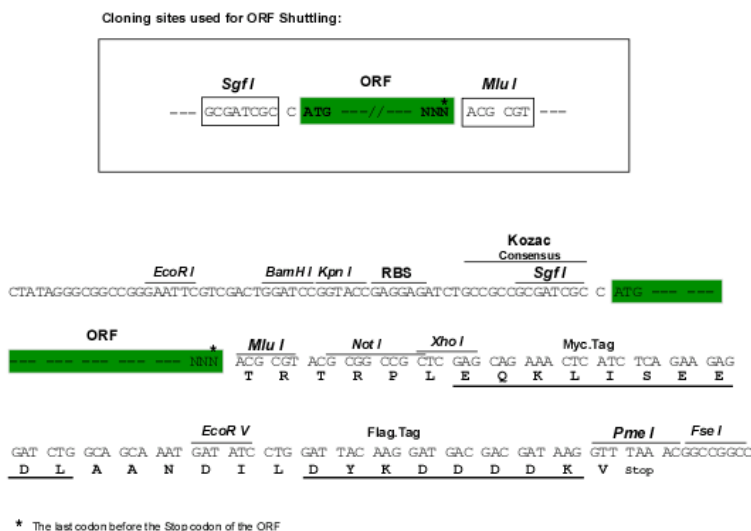
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:	<a href="https://cdn.origene.com/chromatograms/mk6480_c01.zip">https://cdn.origene.com/chromatograms/mk6480_c01.zip</a>
----------------	---


[View online »](#)

Restriction Sites: Sgfl-MluI

### Cloning Scheme:



ACCN: NM\_053031

ORF Size: 462 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.

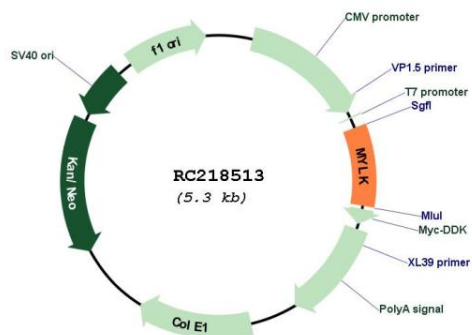
RefSeq: [NM\\_053031.4](#)

RefSeq Size: 2676 bp

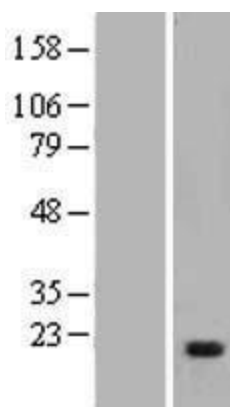
RefSeq ORF: 462 bp

Locus ID:	4638
UniProt ID:	<a href="#">Q15746</a>
Cytogenetics:	3q21.1
Domains:	ig, IGc2, IG
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Calcium signaling pathway, Focal adhesion, Regulation of actin cytoskeleton, Vascular smooth muscle contraction
MW:	16.7 kDa
Gene Summary:	This gene, a muscle member of the immunoglobulin gene superfamily, encodes myosin light chain kinase which is a calcium/calmodulin dependent enzyme. This kinase phosphorylates myosin regulatory light chains to facilitate myosin interaction with actin filaments to produce contractile activity. This gene encodes both smooth muscle and nonmuscle isoforms. In addition, using a separate promoter in an intron in the 3' region, it encodes telokin, a small protein identical in sequence to the C-terminus of myosin light chain kinase, that is independently expressed in smooth muscle and functions to stabilize unphosphorylated myosin filaments. A pseudogene is located on the p arm of chromosome 3. Four transcript variants that produce four isoforms of the calcium/calmodulin dependent enzyme have been identified as well as two transcripts that produce two isoforms of telokin. Additional variants have been identified but lack full length transcripts. [provided by RefSeq, Jul 2008]

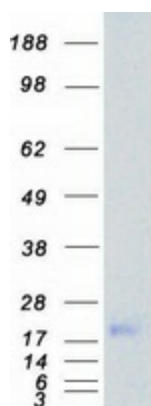
## Product images:



Circular map for RC218513



Western blot validation of overexpression lysate (Cat# [LY409331]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218513 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MYLK protein (Cat# [TP318513]). The protein was produced from HEK293T cells transfected with MYLK cDNA clone (Cat# RC218513) using MegaTran 2.0 (Cat# [TT210002]).