

Product datasheet for **SC109473**

Myosin light chain kinase (MYLK) (NM_053031) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Myosin light chain kinase (MYLK) (NM_053031) Human Untagged Clone
Tag:	Tag Free
Symbol:	Myosin light chain kinase
Synonyms:	AAT7; KRP; MLCK; MLCK1; MLCK108; MLCK210; MMIHS; MMIHS1; MSTP083; MYLK1; smMLCK
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC109473 sequence for NM_053031 edited (data generated by NextGen Sequencing)

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ATGGCAATGATCTCAGGGCTCAGTGGCAGGAAATCCTCAACAGGGTCACCAACCAGCCCG
CTCAATGCAGAAAACTAGAATCTGAAGATGTGTCCCAAGCTTTCCTTGAGGCTGTTGCT
GAGGAAAAGCCTCATGTAAAACCCTATTTCTCTAAGACCATTCGCGATTTAGAAGTTGTG
GAGGGAAGTGCTGCTAGATTTGACTGCAAGATTGAAGGATACCCAGACCCGAGGTTGTC
TGGTTCAAAGATGACCAGTCAATCAGGGAGTCCCGCCACTTCCAGATAGACTACGATGAG
GACGGGAAGTCTCTTTAATTATTAGTGATGTTTGCAGGGATGACGATGCCAAGTACACC
TGCAAGGCTGTCAACAGTCTTGGAGAAGCCACCTGCACAGCAGAGCTCATTGTGGAACG
ATGGAGGAAGGTGAAGGGGAAGGGGAAGAGGAAGAAGAGTGA
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Clone variation with respect to NM_053031.2



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5' Read Nucleotide Sequence:	<p>>OriGene 5' read for NM_053031 unedited</p> <pre>GGGTCACCAATTGTATACGACTCATATAGGCGGCCGCAAATTCGCACGAGCAGAACCTC GGCTCTCAGGAGGTCCTTGTTCAGGGAACAGCTGCTTCTCTGGGGCTGGGCTCTACTCC CTGCAGCCCTCGCACTACCCAGCTGGAACCAGGGACAACGCCTGAGTCCAACCCCTCGTG TCTATTTTCCAGAAAACGGGCAATGCTGTGAGAGCCATTGGAAGACTGCCTCTATGGCA ATGATCTCAGGGCTCAGTGGCAGGAAATCTCAACAGGGTCACCAACCAGCCCGCTCAAT GCAGAAAACTAGAATCTGAAGAAGATGTGTCCCAAGCTTTCCTTGAGGCTGTTGCTGAG GAAAAGCCTCATGTAAAACCTATTTCTCTAAGACCATTTCGCGATTTAGAAGTTGTGGAG GGAAGTGCTGCTAGATTTGACTGCAAGATTGAAGGATACCCAGACCCCGAGGTTGTCTGG TTCAAAGATGACCAGTCAATCAGGGAGTCCCGCCACTTCCAGATAGACTACGATGAGGAC GGGAACTGCTCTTTAATTATTAGTGATGTTTGGGGGATGACGATGCCAAGTACACCTGC AAGGCTGTCAACAGTCTTGAGAAGCCACCTGCACAGCAGAGCTCATTGTGAAACGATG GAGGAAGTGAAGGGGAAGGGGAAGAGGAAGAAGAGTAAAACAAAGCCAGAGAAAAGCAG TTTCTAAGTCATATTAAGGACTATNTCTCTAAAACAAAANAAAAAAAAAAAACTCGA CTCTAGATTGCGGCCGCGTTCATAGCTGTTTCTGAACAGATCCCGGGTGGGCATCCCTG TGACCCCTNNCCAGTGCCTCTCCTGGCCCTGGAAGNNTGCACTNNCAGTNNCCACCCA GCCTGTCTCAATAAAAANTAAAGTGCATCANTTTGTCTGACTAGGTGTCT</pre>
3' Read Nucleotide Sequence:	<p>>OriGene 3' read for NM_053031 unedited</p> <pre>CGTNACAACATGNAACCGCGGCCGCAANCTANGATCGAGTTTTTTTTTTTTTTTTGAGT TTTAGAGAAAAGTCCTTTAATATGACTTAGAACTGCTTTTCTCTGGCTTTGTTTCACT CTTCTTCTCTTCCCCTTCCCCTCACCTTCTCCATCGTTTCCACAATGAGCTCTGCTG TGCAGGTGGCTTCTCAAGACTGTTGACAGCCTTGCAGGTGACTTGGCATCGTCATCCC CGCAAACATCACTAATAATTAAGAGCAGTTCGGTCTCATCGTAGTCTATCTGGAAGT GGCGGGACTCCCTGATTGACTGGTCATTTTGAACCAGACAACCTCGGGGTCTGGGTATC CTTCAATCTTGCAGTCAAATCTAGCAGCACTTCCCTCCACAACCTCTAAATCGCGAATGG TCTTAGAGAAAATAGGGTTTTACATGAGGCTTTTCTCAGCAACAGCCTCAAGGAAAGCTT GGGACACATCTTCTTCAAGATTCTAGTTTTTCTGCATTGAGCGGGCTGGTTGGTGACCCTG TTGAGGATTTCTGCCACTGAGCCCTGAGATCATTGCCATAGAGGACAGTCTTCCAATGG CTCTCACAGCATTGCCCTTTTCTGAAAATAGACACGAGGGTTGACTCAGGCGTTGTC CCTGGTTCCAGCTGGGTAGTGCAGGGGCTGCANGGAGTAGAGCCAGCCAGCCAGAGAAGC AGCTGTTCCCTGGAACAAGGACCTCTGAGAGCCGAGGTTCTGCTCGTGCCGAATTCGCG GCCGCCCTATAGTGAGTCGTATTACAAAATTCTGACGGTTCACTAAACGAGCTCTGCTTA TATAGACCTCCCACCGTACACGCCTACCGNCCATTTGCGTCACGGGGCGGGGTTATTACG ACATTTTGAAAGTCCCCTTGATTTTG</pre>
Restriction Sites:	NotI-NotI
ACCN:	NM_053031
Insert Size:	800 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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_053031.2](#), [NP_444259.1](#)

RefSeq Size: 2676 bp

RefSeq ORF: 462 bp

Locus ID: 4638

UniProt ID: [Q15746](#)

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

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]
Transcript Variant: This variant (7) encodes the shorter isoform of kinase related protein, telokin. The first exon corresponds to intron 30 and the remainder of the transcript corresponds to the last two exons of the gene. It is shorter than variant 8 by one codon at the splicing junction between the first two exons.