

## Product datasheet for **SC323650**

### Myosin light chain kinase (MYLK) (NM\_053027) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Myosin light chain kinase (MYLK) (NM_053027) 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:	>NCBI ORF sequence for NM_053027, the custom clone sequence may differ by one or more nucleotides

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ATGGGGGATGTGAAGCTGGTTGCCTCGTCACACATTTCCAAAACCTCCCTCAGTGTGGATCCCTCAAGAG
TTGACTCCATGCCCTGACAGAGGCCCTGCTTTCATTTTCCCCCTCGGAACCTCTGCATCAAAGAAGG
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ACGGGGGACCCAGTGCCCCGGATCACTTGGCTGCTGAATGGGCAGCCCATCCAGTACGCTCGCTCCACC  
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 CTGCTAGATTTGACTGCAAGATTGAAGGATACCCAGACCCCGAGGTTGTCTGGTTCAAAGATGACCAGTC  
 AATCAGGGAGTCCCGCCACTTCCAGATAGACTACGATGAGGACGGGAAGTCTCTTTAATTATTAGTGAT  
 GTTTGCGGGGATGACGATGCCAAGTACACCTGCAAGGCTGTCAACAGTCTTGGAGAAGCCACCTGCACAG  
 CAGAGCTCATTGTGAAAACGATGGAGGAAGGTGAAGGGGAAGGGGAAGAGGAAGAAGAGTGA

**5' Read Nucleotide Sequence:**

>OriGene 5' read for mutant NM\_053027 unedited  
 ACCGCCCGTTGAGCAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTG  
 AACCGTCAGAATTTTGAATACGACTACTATAGGGCGGCGCGAATTCGGCACGAGGGGATGTGAAGCT  
 GGTTGCCTCGTCGACATTTCCAAAACCTCCCTCAGTGTGGATCACTCAAGAGTTGACTCCATGCCCTG  
 ACAGAGGCCCTGCTTTTCATTTTCCCCCTCGGAACCTCTGCATCAAAGAAGGAGCCACCCGCCAAGTTC  
 GAAGGGCGGGTCCGGGGTCCAGAACCCAGGTGACATGGCACAAAACCGGGAACCCGGGGGGGTGTG  
 TGGCCCGCTTCCGGTGGATGGCGCCTCCGGGGACTTAACCTTTGATTTTGGGGTGGGGAG

**Kinase Domain Sequence:**

>SC323650 kinase domain raw sequence. By performing [BLASTX](#) analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation  
 GAAAGTWTGACTTCTACGACATTGAGGAGAGATTAGGATCTGGGAAATTTGGACAGGTCTTTGACTTG  
 TAGAAAAGAAAACCTCGAAAAGTCTGGGCAGGGATGTTCTTCAAGGCATATTCAGCAAAAAGAGAAAGAA  
 TATCCGCGCAGGAGATTAGCATCATGAACCTGCCTCCACCACCTAAGCTGGTCCAGTGTGTGGATGCCTTT  
 GAAGAAAAGGCCAACATCGTCATGGTCTGGAGATCGTGTCAGGA

**Restriction Sites:**

Please inquire

**ACCN:**

NM\_053027

**Insert Size:**

5600 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).

**OTI Annotation:**

This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." [Cell. 2008 May p536-548.](#)

**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\\_053027.2](#), [NP\\_444255.2](#)

**RefSeq Size:**

7699 bp

**RefSeq ORF:**

5592 bp

<b>Locus ID:</b>	4638
<b>UniProt ID:</b>	<a href="#">Q15746</a>
<b>Cytogenetics:</b>	3q21.1
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Calcium signaling pathway, Focal adhesion, Regulation of actin cytoskeleton, Vascular smooth muscle contraction
<b>Gene Summary:</b>	<p>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]</p> <p>Transcript Variant: This variant (3A) does not utilize exon 30, compared to variant 1, resulting in a shorter protein (isoform 3A), compared to isoform 1.</p>