

## Product datasheet for **SC323638**

### Myosin light chain kinase (MYLK) (NM\_053025) Human Untagged Clone

#### Product data:

|                           |   |
|---------------------------|---|
| Product Type:             | Expression Plasmids   |
| Product Name:             | Myosin light chain kinase (MYLK) (NM_053025) 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_053025, 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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 GCCACCTGCACAGCAGAGCTCATTGTGAAACGATGGAGGAAGGTGAAGGGAAGGGGAAGAGGAAGAAG  
 AGTGA

**5' Read Nucleotide  
 Sequence:**

>OriGene 5' read for mutant NM\_053025 unedited  
 ACCCCCCCTCGAAAACAATGGGCGGAGGCGTGAGGGGGGAGGTCTATACCAGCAGAGCTCGTTAGT  
 GAACCGTCAAAAATTGTGTAATACGACTCACTATAGGGCGGCCGGAATTCGACAGGGGATGTGAAGC  
 TGGTTGCCTCGTCCACATTTCCAAAACCTCCCTCAGTGTGGATCCCTCAACAGTTGACTCCATGCCCTG  
 ACACAGGCCCTGCCTTCTTTGCTCTCGGAACCTCTGCATCAAAGAAGGACCCACCGCAAGTTCCAAA  
 GCGCGGTTCCGGGTTACCAAAAAGCCCACTGACATGGCCCAAACCGCCAACCAATGTTGTTTTGG  
 GTTCCGCTTCCGTTGAAAGCAGCTTCCGGTAACCTCCACCCTTGAAGCTTGAATGACGAG  
 CAACGGAAAGTAACTGGGAAACCCACAAAGGTTATTGGTCTTCCAGCTATCTTGAATTTCCCTTAA  
 AGAAACTTTTCCAAACCCCTTGGTTTTGTGTTGCTTACAACTTAAGGGGGCCATTTTTTCTACCCTA  
 TATCGGGGCGCCTCCTTCTTATGTTCTGGTGCAGGGGCTATTATTATATAATTTGTATCCCCATTC  
 TCTAGCCCTTATCTTGGTGCCTCTTTCCGTTTTTTTTGTGGCAAATATTTTTTCTCCCCCATACT  
 ATACTTTTTGTGCTTATCTCACTCGCGGTTTGTCTC

**Kinase Domain  
 Sequence:**

>SC323638 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  
 TAAAAGTWTGACTTCTACGACATTGAGGAGAGATTAGGATCTGGGAAATTTGGACAGGTCTTTCGACTT  
 GTAGAAAAGAAAACCTCGAAAAGTCTGGGCAGGGATGTTCTTCAAGGCATATTCAGCAAAAAGAAAAGAGA  
 ATATCCGGCAGGAGATTAGCATCATGAACTGCCTCCACCACCTAAGCTGGTCCAGTGTGTGGATGCCTT  
 TGAAGAAAAGGCCAACATCGTCATGGTCTGGAGATCGTGTCCAGG

**Restriction Sites:**

Please inquire

**ACCN:**

NM\_053025

**OTI Disclaimer:**

Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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 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.](#)

|                               |  |
|-------------------------------|--|
| <b>Components:</b>            | 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).   |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>  |
| <b>RefSeq:</b>                | <u>NM_053025.2</u> , <u>NP_444253.2</u>  |
| <b>RefSeq Size:</b>           | 7852 bp  |
| <b>RefSeq ORF:</b>            | 5745 bp  |
| <b>Locus ID:</b>              | 4638   |
| <b>UniProt ID:</b>            | <u>Q15746</u>  |
| <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 (1) is the full-length transcript and encodes the full-length nonmuscle isoform.</p> |