

Product datasheet for **RG216584**

Myosin light chain kinase (MYLK) (NM_053032) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Myosin light chain kinase (MYLK) (NM_053032) Human Tagged ORF Clone
Tag: TurboGFP
Symbol: MYLK
Synonyms: AAT7; KRP; MLCK; MLCK1; MLCK108; MLCK210; MMIHS; MMIHS1; MSTP083; MYLK1; smMLCK
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >RG216584 representing NM_053032
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCAATGATCTCAGGGCTCAGTGGCAGGAAATCCTCAACAGGGTCACCAACCAGCCCGCTCAATGCAG
AAAACTAGAATCTGAAGAAGATGTGTCCCAAGCTTTCCTTGAGGCTGTTGCTGAGGAAAAGCCTCATGT
AAAACCTATTTCTCTAAGACCATTGCGGATTTAGAAGTTGTGGAGGGAAGTGTGCTAGATTTGACTGC
AAGATTGAAGGATACCCAGACCCGAGGTTGTCTGGTTCAAAGATGACCAGTCAATCAGGGAGTCCCGCC
ACTTCCAGATAGACTACGATGAGGACGGAACTGCTCTTAATTATTAGTGATGTTGCGGGGATGACGA
TGCCAAGTACACCTGCAAGGCTGTCAACAGTCTTGAGAGAAGCCACCTGCACAGCAGAGCTCATTGTGGAA
ACGATGGAGGAAGGTGAAGGGGAAGGGGAAGAGGAAGAAGAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG216584 representing NM_053032
Red=Cloning site Green=Tags(s)

MAMISGLSGRKSSTGSPTSPLNAEKLESEEDVSAFLAFAVEEKPHVKPYFSKTIIRDLEVVESGAARFDC
KIEGYDPDEVVWFKDDQSIRESRHFQIDYDEDGNCSLIISDVCGDDDAKYTKAVNSLGEATCTAELIVE
TMEEGEGEGEEEE

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

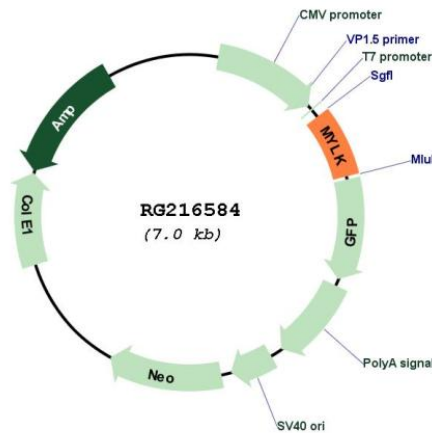


[View online »](#)

Cloning Scheme:



Plasmid Map:



ACCN: NM_053032

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:	<ol style="list-style-type: none">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:	<u>NM_053032.4</u>
RefSeq Size:	2679 bp
RefSeq ORF:	465 bp
Locus ID:	4638
UniProt ID:	<u>Q15746</u>
Cytogenetics:	3q21.1
Domains:	ig
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Calcium signaling pathway, Focal adhesion, Regulation of actin cytoskeleton, Vascular smooth muscle contraction
Gene Summary:	<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>