

Product datasheet for RC220501

Myosin light chain kinase (MYLK) (NM_053027) Human Tagged ORF Clone

Product data:

| | |
|--------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Myosin light chain kinase (MYLK) (NM_053027) Human Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | MYLK |
| Synonyms: | AAT7; KRP; MLCK; MLCK1; MLCK108; MLCK210; MMIHS; MMIHS1; MSTP083; MYLK1; smMLCK |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |
| Cell Selection: | Neomycin |
| ORF Nucleotide Sequence: | >RC220501 representing NM_053027 Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

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CCTCCTTCTCCAGTGCCTGAAGGACTGCGCTGTTATTGAGGGCCAGGATTTTGTGCTGCAGTGCCTCCGT
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Protein Sequence:

>RC220501 representing NM_053027
 Red=Cloning site Green=Tags(s)

MGDVKL VASSHISKTSLVSDPSRVDSMPLTEAPAFILPPRNLCIKEGATAKFEGVRVRYPEPQVTWHRNG
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 EKNGMQVLEIHGVNQDDVGYYTCLVNVGSGKASMSAELSIQGLDSANRSFVRETKATNSDVRKEVTNVIS
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 VSSDPPATI IWTNLGKTLKTKFIILSQEGSLCSVSIKALPEDRGLYKCVAKNDAGQAECSQVTVDDA
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 GSGKFGQVFRLEKTRKRWAGKFFKAYSAKEKENIRQEI SIMNCLHHPKLVQCVDAFEKANIVMLEI
 VSGGELFERIIDDFELTERECIKYMRQISEGVEYIHKQGI VHLDLKPENIMCVNKTGTRIKLIDFGLAR
 RLENAGSLKVLFGTPEFVAPEVINYEPYIGYATDMWSIGVICYILNRLDCTQLQHPWLMKDTKNMEAKKL
 SKDRMCKYMARRKWKQKTGNVRAIGRLSSMAMISGLSGRKSSTGSPTSPLNAEKLESEEDVSQAFLEAVA
 EEKPHVKPYFSKTI RDLEVVESGAARFDCKIEGYPDEVVWFKDDQSIRESRHFQIDYDEDGNCSLIIISD
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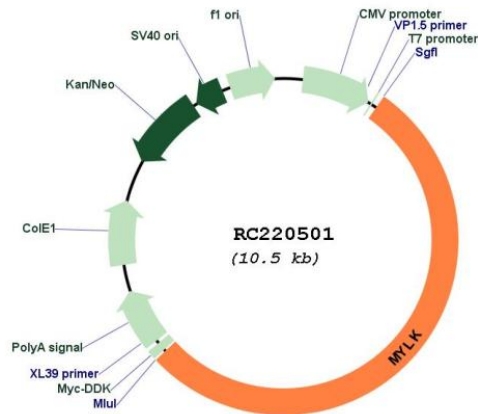
Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



Plasmid Map:



ACCN: NM_053027

ORF Size: 5589 bp

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|-------------------------------|--|
| 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: | NM_053027.4 |
| RefSeq Size: | 7699 bp |
| RefSeq ORF: | 5592 bp |
| Locus ID: | 4638 |
| UniProt ID: | Q15746 |
| Cytogenetics: | 3q21.1 |
| Protein Families: | Druggable Genome, Protein Kinase |
| Protein Pathways: | Calcium signaling pathway, Focal adhesion, Regulation of actin cytoskeleton, Vascular smooth muscle contraction |
| MW: | 205.1 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] |