

Product datasheet for **RR202291**

Myl2 (NM_001035252) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Myl2 (NM_001035252) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Myl2
Synonyms: Mlc-2; MLC-2s/v; Mlc2
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR202291 representing NM_001035252
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

**ATGTCACCAAAGAAAGCCAAGAAGAGGTTAGAGGGCGGAAGCTCCAACGTGTTCTCCATGTTTGAGCAGA
CCCAGATCCAGGAGTTCAAGGAGGCCTTACAATCATGGACCAGAACAGAGACGGCTTCATTGACAAGAA
TGACCTAAGGGACACGTTTGCTGCCCTCGGACGAGTGAACGTGAAAAACGAAGAGATCGATGAGATGATC
AAAGAGGCTCCAGGTCCAATTAACCTCACTGTGTTCTCACCATGTTTGGGGAGAAACTTAAGGAGCTG
ACCCGGAGGAGACCATTCTCAACGCCTTCAAGGTGTTTGACCCGAAGGCAAAGGGTCGCTGAAGGCCGA
CTATGTCCGGGAGATGCTGACCACGCAAGCAGAGAGGTTCTCAAAGAAGAGATCGACCAGATGTTCCGA
GCTTTTCCCCTGACGTACCCGGCAACCTTGATTATAAGAATTTGGTTCACATCATCACCCACGGAGAAG
AGAAGGAC**

**ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA**

Protein Sequence: >RR202291 representing NM_001035252
Red=Cloning site Green=Tags(s)

MSPKKAKKRLEGGSSNVFSMFEQTQIQEFKEAFTIMDQNRDGFIDKNDLRDTFAALGRVNVKNEEIDEMI
KEAPGPINFTVFLTMFGEKLGADPEETILNAFKVFDPEGKGSFKADYVREMLTTQAERFSKEEIDQMFA
AFPPDVTGNLDYKNLVHIITHGEEKD

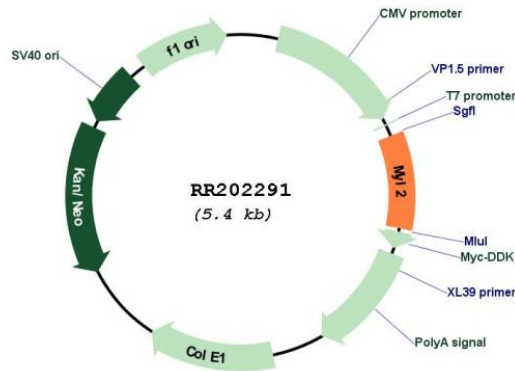
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI



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Cloning Scheme:

Plasmid Map:


ACCN: NM_001035252

ORF Size: 498 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_001035252.2</u> , <u>NP_001030329.2</u>
RefSeq Size:	677 bp
RefSeq ORF:	501 bp
Locus ID:	363925
UniProt ID:	<u>P08733</u>
Cytogenetics:	12q16
MW:	18.9 kDa
Gene Summary:	Contractile protein that plays a role in heart development and function (By similarity). Following phosphorylation, plays a role in cross-bridge cycling kinetics and cardiac muscle contraction by increasing myosin lever arm stiffness and promoting myosin head diffusion; as a consequence of the increase in maximum contraction force and calcium sensitivity of contraction force. These events altogether slow down myosin kinetics and prolong duty cycle resulting in accumulated myosins being cooperatively recruited to actin binding sites to sustain thin filament activation as a means to fine-tune myofilament calcium sensitivity to force (PubMed:15331360). During cardiogenesis plays an early role in cardiac contractility by promoting cardiac myofibril assembly (By similarity).[UniProtKB/Swiss-Prot Function]