

Product datasheet for **MG225821**

Mylk3 (NM_175441) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mylk3 (NM_175441) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Mylk3
Synonyms:	D830007F02Rik; MLCK
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG225821 representing NM_175441
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCAGGAGTTTCAGAGGAGGACCCAGAGGGTCTGGCCCCCAGGGTCTGCCAGCATTGGCGGGAGCCT
 GCTTAGCCACCATGGACAAAAAAGCTTAATGTGCTGACTGAGAAGGTCGACAGACTTTGCATTTCCAAGA
 AGATGTACAGAGAAGCTGCAGTGTGTGTGCCAAGGCATGGATCACCTGGAACAAGATCTGCATCGGCTG
 GAGGCCTCCCGGAGTTGAGTCTGGCAGGGTCTGGCAGCACTCCCCAACACGGCTCAGGCCGATGGC
 CTGAGGTCCTGGAGCTGGTGGGGCTGTGCGGCAGGAGGGTGGCCAGCATGGTGCCAGGCTCGAAGCCCT
 CTTCAAGATGGTGGTGGCTGTGGACAGGGCTATTACTTTGGTAGGGTCCACATTCAGAATTCGAAGGTG
 GCTGATTTTCATCATGCAAGGAACCGTCCCGGGAGAAAAGGCAGTCTGGCCGATGGCCGGAGGAGAACA
 AGGAGCAAGCAGAAGTTGCTGGAGTGAAGCCAAACCATGTACTGACTACAGGAGGTGTGCAAGCTGACGC
 CTCTAGGACGCTGTGGGAAGAGAGCCAAAAGGAGGACATACCTGTGCGAACAGTGGAGGGCTGCCTCTC
 ATCATCAATACGTCAGTGAAGGGAGCTGACCTAACCCAGGCAGGAGCCTCACTGAGGCAGGGAGTTGAAG
 TTCTTGGCCCAGGCCAAGTACCCCTACCCACAGAAGCAGAATCCAGGCTTCTTGAGACAGCCAGTGAGAA
 CACTGGAGCCACCTGGAATGTCCGTAGCAATCGACAGAATCAGCGAGGTCTCACTAGCCTCAAGATG
 TCACAAGTGGTGGTCAAGAAACCTCATCCAGCAAGCCTGACTGTTGGCTTTCAGAAGAGGCCATGAGGC
 TGAGTTCAAGGCTCTCCCTCAGCCCCTAGGACCACTAACTCCAGACAGTGCATTCACAGTGGTGTATGC
 ACTTCCCAGGATCCCTATCAATATGCAAGAGATGGCTACTCTGGGGAGTTGCTTGAGACCCAAAGTGGC
 AGTCCCATTGGCTCTGCAGAAGCTCCAGGCCTTGGGACTGTGTTAGAAGACCAGATCCCTAAAGGAGCCA
 GACCAATTCACCCCTGCCAAAGAGGAGCAGCAACAATGGTGGCATGAGTGCAGAGGAGGATAGGGTCT
 TGGGGCTGAGCCTATGAGAGGACCAAGCTTGGCTACAAGGGACTGGAGAGATGAGACTGTTGGGACCACA
 GACCTGCAGCAAGGCATAGACCCAGGAGCAGTGGCCCTGAGCCTGGGAAGGACCACGCAGCCCAGGGCC
 CAGGAAGAAGTGAAGCTGGAAGGCTATCTTCTGCTGCAGAGGCTGCCATTGTGGTTCTAGATGACAGCGC
 AGCACCCCCAGCCCTTTTGAACACCGGGTAGTGAGCATCAAAGATACCCTGATCTCAGCAGGCTACAGG
 GTATCCCAACATGAAGTCTTAGGAGGGGTGGTTTGGCCAGGTGCACAGGTGTACAGAGAGGTCTACAG
 GCCTTGCAGTGGCAGCCAAGATCATCAAAGTGAAGAACGTAAAGGACCGGGAGGATGTGAAGAATGAGGT
 CAACATCATGAACCAGCTCAGCCACGTAACCTTGATCCAACCTTTATGATGCGTTTGAGAGCAAGAGCAGC
 TCACTCTGATCATGGAGTATGTGGATGGAGGCGAACTTTGACCGGATCACGGATGAGAAGTACCACC
 TCACTGAGTTGGATGTGGTCTTGTTCACGAGGCAGATCTGTGAGGGTGTGCATTACCTGCATCAGCAGTA
 TATCTGACCTGGACCTCAAGCCTGAGAACATATTGTGTGTCAGCCAGACAGGGCATCAAATTAAGATC
 ATTGACTTTGGGCTGGCTAGAAGATACAAGCCTCGGGAGAAGCTAAAGGTGAACCTTTGGTACTCCGGAGT
 TCCTGGCCCCAGAAGTTGTTAACTATGAGTTTGTGTCAATTTCAAACAGACATGTGGAGTGTGGGAGTTAT
 CACCTACATGCTACTCAGTGGTTTGTCCCATTCTAGGGGAGACAGATGCAGAGACCATGAATTTTATT
 GTGAAGTGCAGCTGGGATTTTCGATGCTGATACCTTCAAAGGGCTGTCGGAGGAAGCCAAGGACTTTGTTT
 CCCGGTACTGGTCAAAGAGAAGAGCTGTAGGATGAGCGCCACACAGTGCCTGAAACACGAGTGGTTAAG
 TCACCTGCCTGCCAAAGCCTCGGGCTCCAACGTTCCGCTCAGATCCCAACAACCTGCTGCAGAAATATATG
 GCTCAGAGTAAATGGAAGAAACATTTCCACGTGGTACTGCAGTCAACAGGCTACGGAAATTTCCAACGT
 GTCCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG225821 representing NM_175441
Red=Cloning site Green=Tags(s)

MSGVSEEDPEGLAPQGLPALGGA CLATMDKKNLVLTEKVDRL LHFQEDVTEKLQCVCQGM D HLEQDLHRL
EASRELSLAGSGSTPPTTAQA A WPEVLELVRAVRQEGAQH GARLEALFKM VVAVDRAITLVG STFQNSKV
ADFI MQGTVPGRK GSLADGPEENKEQAEVAGVKPNHVL TTGGVQADASRTLWEESQKEDIPVRTVEGLPL
IINTSLKGADLTQAGASLRQGV EVLGPGQVPLPTEAESRLPETASENTGATLELSVAIDRISEVLTSLKM
SQGGGQETSSSKPDCWLSEEAMRLSSGPLPQPLGPLTPDSDIHSGDALPRIPINMQEMATPGELLETSQSG
SPIGSAEAPGLGTVLEDQIPK GARPFPPLPKRSSNNGGMSAEEEEIGSGAEPMRG PSLATRDWRDET VGTT
DLQQGIDPGAVSPEPGKD HAAQGPGRTEAGRLSSAAEAAIVVLD DSAAPPAPFEHRVVS IKDTLISAGYT
VSQHEVLGGGRFGQVHRCTERSTGLALAAKIIKVKNVKDREDVKNEVNIMNQLSHVNL IQLYDAFESKSS
FTLIMEYVDGGELFD RITDEKYHLTELDVVL FTRQICEGVHYLHQHYILHLDLKPENILCVSQTGHQIKI
IDFGLARRYPREKLVNF GTPEFLAPEVVNYEFVSFPTDMW SVGVITYMLLSGLSPFLGETDAETMNF I
VNCSWDFDADTFKGLSEEAKDFVSRLLVKEKSCRMSATQCLKHEWLSHLP AKASGSNVRLRSQQLLQKYM
AQSKWKKHFFHVVTAVNRLRKFP T CP

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:

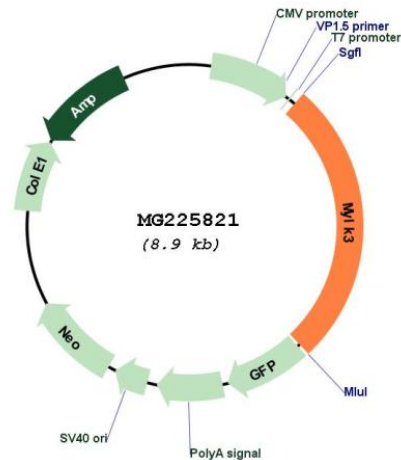


Kozac Consensus
 --- *EcoRI* *BamHI* *KpnI* RBS *SgfI* *AscI* ---
 CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGCCAGATCT

HindIII *NheI* *RsrII* *MluI* *NotI* *XhoI* GFP Tag
 CAAGCTTAAGCTAGCTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC --- --- ---
 T R T R P L E M E S D - - -

PmeI *FseI*
 --- --- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT
 - - - E E R V Stop

Plasmid Map:



ACCN: NM_175441

ORF Size: 2385 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:

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_175441.5](#), [NP_780650.2](#)

RefSeq Size: 3070 bp

RefSeq ORF: 2388 bp

Locus ID: 213435

UniProt ID: [Q3UIZ8](#)

Cytogenetics: 8 C3

Gene Summary:

Kinase that phosphorylates MYL2 in vitro. Has been proposed to be calmodulin-dependent (PubMed:17885681), although MYL2 phosphorylation has also been observed in the presence or absence of calmodulin (PubMed:18202317). Promotes sarcomere formation in cardiomyocytes and increases cardiomyocyte contractility.[UniProtKB/Swiss-Prot Function]