

Product datasheet for **MR230134**

Micu1 (NM_001291443) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Micu1 (NM_001291443) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Micu1
Synonyms:	C730016L05Rik; Calc; Cbara1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>MR230134 representing NM_001291443
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTTTCGTCTTAACACCCTTTCTGCGTTGGCAGAAGTAGCTGTGGGCTCTCGTGGTACCATGGGGCAT
 CACAGCCACACAGACCAACGAAGATTGATGCTGGTGGCGTTCTGGGAGCATCTGCAGTGACTGCAAG
 TACCGGTCTCCTGTGGAAGAAGGCTCACGCAGAATCTCCACCATGCGTTAACAGCAAGAAGCCTGACACA
 GAAGATAAAGAGAGAAAACAAAGACAGCGGGGAAGTGTCCAGCCGTGAAGGAAGGGCTGCAGATGCTGCGG
 CAGAGCCTTATCCTGAGGACAAGAAGAAGCGCTCTGGATTACAGAGACAGAAAAGTATGAGGATGGA
 GAATCGAATCCGAGCCTACTCCACACCAGACAAAATTTCCGATATTTGCCACCTTGAAAGTAATCAAC
 GAACCTGGTGAACCGAAGTGTTATGACTCCGCAGGACTTTGTGCGCTCCATAACGCCCAATGAGAAGC
 AGCCAGAACACTTGGGCCTGGATCAGTATATAATAAAGCGCTTTGATGGAAGGAGTTCTGGCAGAAAAT
 TGCCAGGAACGAGAAAATTTGCTGATGAAGGCAGCATCTTCTACAGCCTTGAGAGTGTGGGCTCATC
 TCCTTCTCTGACTACATCTTCTCACAACAGTCTCTCCACTCCTCAGAGAAAATTTGAAATTGCTTTCA
 AGATGTTTGACTTGAATGGAGACGGAGAGGTAGACATGGAGGAGTTTGAGCAGGTTTCAGAGCATCATTCCG
 CTCCCAGACCAGCATGGGCATGCGTACAGAGACCGTCCAACCACTGGGAACACCCTCAAGTCTGGCTTA
 TGTTCCGGCCCTACGACCTACTTTTTGGAGCTGATCTCAAAGGGAAACTGACCATCAAAAATCTCTGG
 AATTTACAGCGAAACTTCAGCATGACGTTCTAAAGCTGGAGTTTGAACGCCATGACCCGGTAGATGGGAG
 AATCTCTGAGAGGCAGTTCGGGGCATGCTGCTGGCCTACAGTGGAGTGCAGTCCAAGAAGCTGACCGCC
 ATGCAGAGACAGCTGAAGAAGCACTTCAAAGTGGGAAGGGCTGACTTCCAGGAGGTAGAGAACTTCT
 TCACTTTCTGAAGAACATTAATGACGTGGACACTGCACATAAGCTTTTACCACATGGCTGGAGCATCTCT
 TGATAAAGTGACCATGCAGCAAGTGGCCAGGACAGTGGCGAAGGTGCAACTCTCGGACCATGTGTGTGAC
 GTGGTGTTCGCGCTCTTTGACTGTGATGGAATGGGGAGCTGAGCAACAAGGAGTTCGTTTCCATCATGA
 AGCAGCGGCTGATGAGAGGCCTGGAGAAGCCAAAGGACATGGGCTTACCCCGCTCATGCAGGCCATGTG
 GAAATGTGCCAAGAACTGCCTGGGACTTTGCTCTGCCAAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR230134 representing NM_001291443
 Red=Cloning site Green=Tags(s)

MFRLNTLSALAEAVGSRWYHGASQPTQTKRRLMLVAFLGASAVTASTGLLWKKAHAESPPCVNSKKPDT
 EDKERNKDSGEVSSREGRAADAAAEPYPEDKKKRSGFRDRKVMYENRIRAYSTPDKIFRYFATLKVIN
 EPGETEVFMT PQDFVRSITPNEKQPEHLGLDQYIIKRFDGKEFWQKIAQEREKFADEGSIFYSLGECGLI
 SFSDYIFLTTVLSTPQRNFEIAFKMFDLNGDGEVDMEEFEQVQSIIRSQTSMMRHRDRPTTGNTLKSGL
 CSALTTYFFGADLKGKLTIKNFLEFQRKLQHDVLKLEFERHDPVDGRISERQFGMMLLAYSGVQSKKLT
 MQRQLKKHFKDGKGLTFQEVENFFFLKNINDVDTALSFYHMAGASLDKVTMQQVARTVAKVELSDHVCD
 VVFAFDGNGELSNKEFVSIKMQRLMRGLEKPKDMGFTRLMQAMWKAQETAWDFALPK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

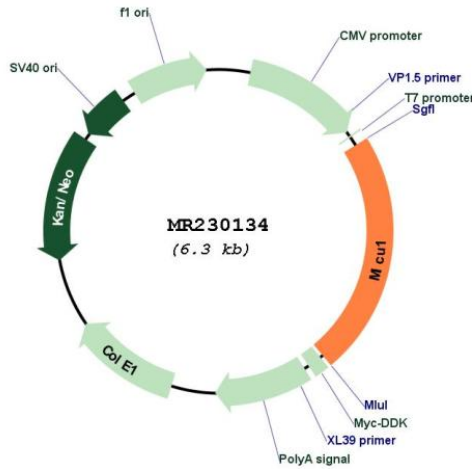
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN:

NM_001291443

ORF Size:

1443 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_001291443.1</u> , <u>NP_001278372.1</u>
RefSeq Size:	2370 bp
RefSeq ORF:	1446 bp
Locus ID:	216001
UniProt ID:	<u>Q8VCX5</u>
Cytogenetics:	10 B4
MW:	55.4 kDa
Gene Summary:	<p>Key regulator of mitochondrial calcium uniporter (MCU) that senses calcium level via its EF-hand domains (PubMed:24560927). MICU1 and MICU2 form a disulfide-linked heterodimer that stimulates and inhibits MCU activity, depending on the concentration of calcium (PubMed:24560927). MICU1 acts both as an activator or inhibitor of mitochondrial calcium uptake (By similarity). Acts as a gatekeeper of MCU at low concentration of calcium, preventing channel opening (By similarity). Enhances MCU opening at high calcium concentration, allowing a rapid response of mitochondria to calcium signals generated in the cytoplasm (PubMed:24560927). Regulates glucose-dependent insulin secretion in pancreatic beta-cells by regulating mitochondrial calcium uptake (By similarity). Induces T-helper 1-mediated autoreactivity, which is accompanied by the release of IFNG (By similarity). [UniProtKB/Swiss-Prot Function]</p>