

Product datasheet for **MR230144**

Micu1 (NM_001291442) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Micu1 (NM_001291442) 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:

>MR230144 representing NM_001291442
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTTTCGTCTTAACACCCTTTCTGCGTTGGCAGAAGCTGTGGGCTCTCGTGGTACCATGGGGCAT
 CACAGCCACACAGACCAACGAAGATTGATGCTGGTGGCGTTCTGGGAGCATCTGCAGTGACTGCAAG
 TACCGGTCTCCTGTGGAAGAAGGCTCACGCAGAATCTCCACCATGCGTTAACAGCAAGAAGCCTGACACA
 GAAGATAAAGAGAGAAAACAAAGACACGGGGAAGTGTCCAGCCGTGAAGGAAGGGCTGCAGATGCTGCGG
 CAGAGCCTTATCCTGAGGACAAGAAGAAGCGCTCTGGATTACAGAGACAGAAAAGTGTGGAGTATGA
 GAATCGAATCCGAGCCTACTCCACACCAGACAAAATTTCCGATATTTGCCACCTTGAAAGTAATCAAC
 GAACCTGGTGAACCGAAGTGTTTCATGACTCCGCAGGACTTTGTGCGCTCCATAACGCCCAATGAGAAGC
 AGCCAGAACACTTGGGCCTGGATCAGTATATAATAAAGCGCTTTGATGGAAGGAGTTCTGGCAGACCGA
 GAAAATTGCCAGAACGAGAAAAATTTGCTGATGAAGGCAGCATCTTCTACAGCCTTGAGAGTGTGGG
 CTATCTCCTTCTGACTACATCTTCTCACAACAGTCTCTCCACTCCTCAGAGAAAATTTGAAATTG
 CTTTCAAGATGTTTGACTTGAATGGAGACGGAGAGGTAGACATGGAGGAGTTTGAGCAGGTTTCAGAGCAT
 CATTTCGCTCCCAGACCAGCATGGGCATGCGTCCACAGACCGTCCAACCACTGGGAACACCTCAAGTCT
 GGCTTATGTTTCGGCCCTCACGACCTACTTTTTGGAGCTGATCTCAAAGGAAACTGACCATCAAAA
 TCTCTGGAATTTACAGCGAAAATTCAGCATGACGTTCTAAAGCTGGAGTTTGAACGCCATGACCCGGT
 TAGA
 TGGGAGAATCTCTGAGAGGCAGTTCGGGGCATGCTGCTGGCCTACAGTGGAGTGCAGTCCAAGAAGCTG
 ACCGCCATGCAGAGACAGCTGAAGAAGCACTTCAAAGATGGGAAGGGCCTGACTTCCAGGAGGTAGAGA
 ACTTCTTCACTTTCTGAAGAACATTAATGACGTGGACACTGCACTAAGCTTTTACCACATGGCTGGAGC
 ATCTCTTGATAAAGTGACCATGCAGCAAGTGGCCAGGACAGTGGCGAAGGTCGAACCTCTCGGACCATGTG
 TGTGACGTGGTGTTCGCGCTCTTTGACTGTGATGGCAATGGGGAGCTGAGCAACAAGGAGTTCGTTTCCA
 TCATGAAGCAGCGGCTGATGAGAGGCCTGGAGAAGCCCAAGGACATGGGCTTCACCCGCCTCATGCAGGC
 CATGTGGAATGTGCCAAGAACTGCCTGGGACTTTGCTCTGCCCAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR230144 representing NM_001291442
 Red=Cloning site Green=Tags(s)

MFRLNTLSALAEAVGSRWYHGASQPTQTKRRLMLVAFLGASAVTASTGLLWKAHAESPPCVNSKPKPDT
 EDKERNKDSGEVSSREGRAADAAAEPYPEDKKKRSGFRDRKVMYENRIRAYSTPDKIFRYFATLKVIN
 EPGETEVFMT PQDFVRSITPNEKQPEHLGLDQYIIKRFDGKEFWQTEKIAQEREKFADEGSIFYSLGECG
 LISFDYIFLTTVLSTPQRNFEIAFKMFDLNGDGEVDMEEFEQVQSIIRSQTSMGMRHRDRPTTGNTLKS
 GLCSALTTYFFGADLKGKLTIKNFLEFQRKLQHDVLEKLEFERHDPVDGRI SERQFGMMLLAYSQVQSKKL
 TAMQRQLKHKHFKDGKGLTFQEVENFFFLKNINDVDTALSFYHMAGASLDKVTMQQVARTVAKVELSDHV
 CDVVFALFDCDNGELSNKEFVSIKQRLMRGLEKPKDMGFTRLMQAMWKAQETA WDFALPK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

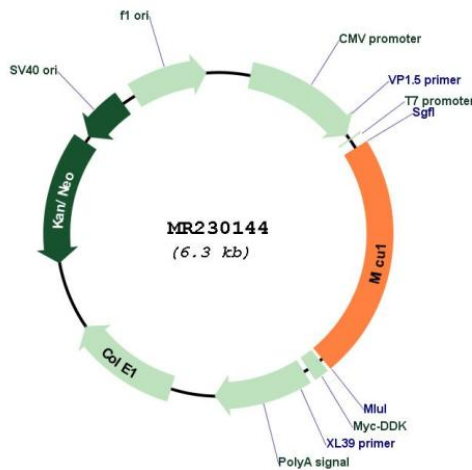
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:

NM_001291442

ORF Size:

1449 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_001291442.1</u> , <u>NP_001278371.1</u>
RefSeq Size:	2376 bp
RefSeq ORF:	1452 bp
Locus ID:	216001
UniProt ID:	<u>Q8VCX5</u>
Cytogenetics:	10 B4
MW:	55.6 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>