

## Product datasheet for **MC227923**

### Micu1 (NM\_001291443) Mouse Untagged Clone

#### Product data:

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



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**Fully Sequenced ORF:** >MC227923 representing NM\_001291443  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGTTTCGTCTTAACACCCTTTCTGCGTTGGCAGAAGCTGTGGGCTCTCGTGGTACCATGGGGCAT  
 CACAGCCACACAGACCAACGAAGATTGATGCTGGTGGCGTTCTGGGAGCATCTGCAGTGACTGCAAG  
 TACCGGTCTCCTGTGGAAGAAGGCTCACGCAGAATCTCCACCATGCGTTAACAGCAAGAAGCCTGACACA  
 GAAGATAAAGAGAGAAAACAAAGACAGCGGGGAAGTGTCCAGCCGTGAAGGAAGGGCTGCAGATGCTGCGG  
 CAGAGCCTTATCCTGAGGACAAGAAGAAGCGCTCTGGATTACAGAGACAGAAAAGTGTGGAGTATGA  
 GAATCGAATCCGAGCCTACTCCACACCAGACAAAATTTCCGATATTTGCCACCTTGAAAGTAATCAAC  
 GAACCTGGTGAACCGAAGTGTTATGACTCCGCAGGACTTTGTGCGCTCCATAACGCCCAATGAGAAGC  
 AGCCAGAACACTTGGGCCTGGATCAGTATATAATAAAGCGCTTTGATGGAAGGAGTTCTGGCAGAAAAT  
 TGCCAGGAACGAGAAAATTTGCTGATGAAGGCAGCATCTTCTACAGCCTTGAGAGTGTGGGCTCATC  
 TCCTTCTCTGACTACATCTTCTCACAACAGTCTCTCCACTCCTCAGAGAAAATTTGAAATGCTTTCA  
 AGATGTTTGACTTGAATGGAGACGGAGAGGTAGACATGGAGGAGTTTGAGCAGGTTTCAGAGCATCATTCCG  
 CTCCCAGACCAGCATGGGCATGCGTACAGAGACCGTCCAACCACTGGGAACACCCTCAAGTCTGGCTTA  
 TGTTCCGGCCCTCACGACCTACTTTTTGGAGCTGATCTCAAAGGGAAACTGACCATCAAAAACCTTCTGG  
 AATTTACAGCGAAACTTCAGCATGACGTTCTAAAGCTGGAGTTTGAACGCCATGACCCGGTAGATGGGAG  
 AATCTCTGAGAGGCAGTTCGGGGCATGCTGCTGGCCTACAGTGGAGTGCAGTCCAAGAAGCTGACCGCC  
 ATGCAGAGACAGCTGAAGAAGCACTTCAAAGATGGGAAGGCCTGACTTCCAGGAGGTAGAGAACTTCT  
 TCATTTTCTGAAGAACATTAATGACGTGGACTGCCTAAGCTTTTACCACATGGCTGGAGCATCTCT  
 TGATAAAGTGACCATGCAGCAAGTGGCCAGGACAGTGGCGAAGGTGCAACTCTCGGACCATGTGTGTGAC  
 GTGGTGTTCGCGCTCTTTGACTGTGATGCAATGGGGAGCTGAGCAACAAGGAGTTTCGTTTCCATCATGA  
 AGCAGCGGCTGATGAGAGGCCTGGAGAAGCCAAAGGACATGGGCTTACCCGCTCATGCAGGCCATGTG  
 GAAATGTGCCAAGAACTGCCTGGGACTTTGCTTGCCCAA**TAG**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-MluI
- ACCN:** NM\_001291443
- Insert Size:** 1446 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- 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\\_001291443.1](#), [NP\\_001278372.1](#)

**RefSeq Size:** 2370 bp

**RefSeq ORF:** 1446 bp

**Locus ID:** 216001

**UniProt ID:** [Q8VCX5](#)

**Cytogenetics:** 10 B4

**Gene Summary:** 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]

Transcript Variant: This variant (2) lacks an alternate exon in the coding region compared to variant 1. The resulting protein (isoform 2) is shorter but has the same N- and C-termini compared to isoform 1.