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Product datasheet for MR218926

Mcu (NM_001033259) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mcu (NM_001033259) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mcu
Synonyms:	2010012O16Rik; AV064928; C10orf42; Ccdc109a; D130073L02Rik; Gm64
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>MR218926 representing NM_001033259
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGGCCGCCGCAGGTAGATCGCTCCTGCTGCTGCTCTGCTCCCGGGGCGGCGGCGGGGGCGCCGGCG
GCTGCGGAGCGCTGACTGCCGGCTGCTTTCCCGGGCTGGGCGTCAGCCGCCACCGGCCGCACCAGCAGCA
CCGGACGGCACACCAGAGGCCGGCTTCCTGGCAGAGCGTGGGAGCCGCATATTGCAGTACGGTTGTGCCC
TCTGATGACGTGACGGTGGTTTACCAAAATGGATTACCGGTGATATCTGTGAGGCTACCCTCTCGACGCG
AGCGCTGCCAATTCACACTCAAGCCTATCTCTGACTCAGTCGGCGTGTTTTTACGACAACTGCAAGAGGA
GGATCGGGGAATCGACCGGGTCGCCATCTACTCACCAGATGGCGTTCGAGTCGCTGCCTCCACGGGGATA
GACCTCCTGCTCCTCGATGACTTTAAGCTTGTCATTAATGACTTAACATACCACGTACGGCCACCAAAGA
GAGACCTCCTAAGCCATGAAGATGCAGCGACGCTGAACGACGTGAAGACCCTGGTCCAGCAGCTGTACAC
CACACTGTGCATTGAGCAGCATCAGCTTAACAAAGAGCGGGAGCTCGTGGAGAGGTTAGAGGACCTCAAG
CAGCAGCTGGCCCCCCTGGAGAAGGTACGAATTGAAATTAGCAGAAAAGCAGAGAAGAGGACCACTCTGG
TGCTGTGGGGAGGCCTGGCCTACATGGCCACCCAGTTTGGCATTCTGGCCCGGCTCACCTGGTGGGAGTA
CTCGTGGGACATCATGGAGCCCGTCACCTACTTCATCACGTACGGAAGCGCCATGGCCATGTATGCGTAT
TTTGTAATGACGCGCCAGGAATATGTTTATCCAGAAGCCAGAGACAGACAATACTTATTATTTTTCCATA
AAGGAGCCAAAAAGTCACGTTTCGACCTAGAGAAATACAATCAGCTCAAGGATGCAATTGCTCAGGCAGA
AATGGATCTTAAGAGACTGAGAGACCCATTACAAGTACACCTGCCCCTCCGACAGATCGGAGAAAAGGAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

>MR218926 representing NM_001033259
Red=Cloning site Green=Tags(s)

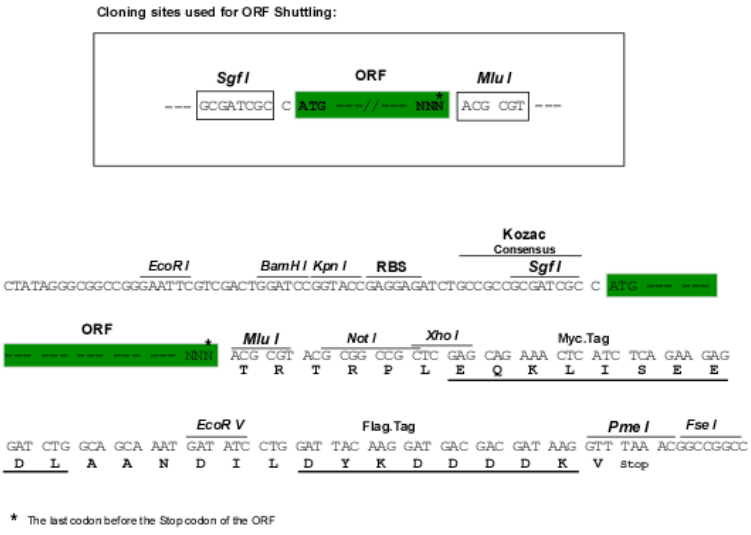
MAAAAGRSLLLLLCSRGGGGGAGGCGALTAGCFPGLGVSRHRPHQQHRTAHQRPASWQSVGAAYCSTVVP
SDDVTVVYQNGLPVISVRLPSRRERCQFTLKPISDSVGVFLRQLQEEDRGIDRVAIYSPDGVRVAASTGI
DLLLLDDFKLVINDLTYHVRPPKRDLLSHEDAATLNDVKTLVQQLYTTLCIEQHQLNKERELVERLEDLK
QQLAPLEKVRIEISRKAEKRTTLVLWGGLAYMATQFGILARLTWWEYSWDIMEPVTYFITYGSAMAMYAY
FVMTRQEYVYPEARDRQYLLFFHKGAKKSRFDLEKYNQLKDAIAQAEMDLKRLRDPLQVHLPLRQIGEKE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/ja1304_c12.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001033259

ORF Size: 1050 bp

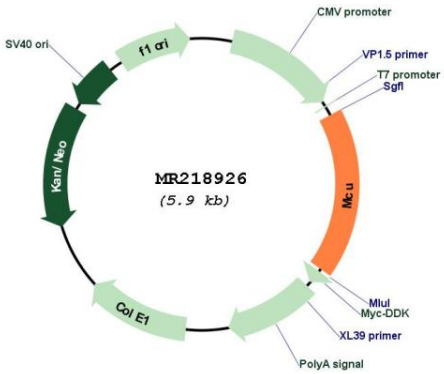
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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_001033259.4
RefSeq Size:	1423 bp
RefSeq ORF:	1053 bp
Locus ID:	215999
UniProt ID:	Q3UMR5
Cytogenetics:	10 B4
MW:	40.1 kDa
Gene Summary:	Mitochondrial inner membrane calcium uniporter that mediates calcium uptake into mitochondria (PubMed:21685886, PubMed:23900286, PubMed:24212091). Constitutes the pore-forming and calcium-conducting subunit of the uniporter complex (uniplex) (By similarity). Activity is regulated by MICU1 and MICU2 (By similarity). At low Ca(2+) levels MCU activity is down-regulated by MICU1 and MICU2; at higher Ca(2+) levels MICU1 increases MCU activity (By similarity). Mitochondrial calcium homeostasis plays key roles in cellular physiology and regulates cell bioenergetics, cytoplasmic calcium signals and activation of cell death pathways (By similarity). Involved in buffering the amplitude of systolic calcium rises in cardiomyocytes (By similarity). While dispensable for baseline homeostatic cardiac function, acts as a key regulator of short-term mitochondrial calcium loading underlying a 'fight-or-flight' response during acute stress: acts by mediating a rapid increase of mitochondrial calcium in pacemaker cells (PubMed:26119742, PubMed:26119731, PubMed:25603276). Participates in mitochondrial permeability transition during ischemia-reperfusion injury (PubMed:26119731). Regulates glucose-dependent insulin secretion in pancreatic beta-cells by regulating mitochondrial calcium uptake (By similarity). Mitochondrial calcium uptake in skeletal muscle cells is involved in muscle size in adults (PubMed:25732818). Regulates synaptic vesicle endocytosis kinetics in central nerve terminal (PubMed:26644474). Involved in antigen processing and presentation (PubMed:25251370).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR218926