

Product datasheet for **MR225390**

Mcoln1 (NM_053177) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mcoln1 (NM_053177) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mcoln1
Synonyms:	2210015I05Rik; mucolipidin; TRPML1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR225390 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCACCCCGGCGGGCCGGCGCGCTCAGAGACTGAGCGGCTGCTGACCCCCAATCCTGGGTATGGGA
 CCCAGGTGGGACCTCACCAGCCCCAACACCCCCACAGAAGAGGAAGACCTCCGCCGCCCTCAAGTA
 CTTCTTTATGAGCCCATGTGACAAGTCCGGGCCAAAGGCCGCAAGCCCTGCAAGCTGATGCTGCAGGTG
 GTCAAGATCTTGGTGGTCACTGTGCAGCTCATTCTCTTTGGGCTCAGCAACCAGCTGGTGGTGACATTCC
 GGAAGAGAACCATTGCCTCCGACATCTTCTCCTGCTGGGTTACTCTGATGGGTCTGATGACACCTT
 TGCAGCTACACACAGGAGCAGCTCTACCAAGCCATCTTCTATGCTGTGGACCAGTACCTGATACTACCT
 GAGATATCCCTGGGCCGGTATGCCTATGTCGTGGTGGGGTGGGCTTGGGCCAATGGATCAGCTTTGG
 CTCTCTGCCAGCGGTACTACCACGTGGCCATGTGGACCCAGCCAATGATACCTTTGACATTGATCCAAG
 GGTAGTCACTGACTGTATCCAGGTGGATCCTCCTGACAGACCCCTGACATCCCCAGTGAGGACTGGAC
 TTCTTGGATGGCAGCGCCAGTTACAAGAACCTCACACTGAAATCCACAAGCTGATCAACGTCACCATCC
 ACTTCCAGCTGAAGACAATTAACCTGCAGAGCCTCATCAACAATGAGATCCCTGATTGTTACACCTTCAG
 TATCCTGATCACATTTGACAATAAAGCGCACAGTGGGCGAATCCCCATCCGCCTGGAGACCAAGACCCAC
 ATCCAGGAGTGCAAACACCCAGTGTCTCCAGACATGGAGACAACAGCTTCCGGCTTCTGTTTGTATGTGG
 TGGTTATCCTCACCTGCTCCCTGTCTTCTGCTGTGCGCCCGCTCACTGCTCCGTGGCTTCTGCTGCA
 GAACGAGTTTGTGTATTCATGTGGCGCGGGGGTGGGAAATCAGCCTCTGGGAACGGCTGGAGTTT
 GTCAATGGCTGGTACATCCTGCTGGTACCAGTGACGTGCTCACCATCTCGGGGACTGTCATGAAGATTG
 GCATTGAGGCAAAGAACCAGCCAGCTATGATGTCTGCAGTATTCTTTGGGTACCTCCACTCTGCTAGT
 CTGGGTGGTGTATTCCGCTACCTGACATTTTTCCACAAGTACAACATCTTGATTGCCACGTTGCGAGTG
 GCACTGCCAGTGTATGCGTTTCTGCTGCTGTGGCTGTCATCTACCTGGGCTATTGCTTCTGTGGCT
 GGATCGTTCTAGGGCCCTACCATGTGAAGTTCGCTCGCTGTCCATGGTTTCTGAGTGTCTGTTCTCACT
 CATCAACGGAGACGACATGTTTGTGACGTTTCGCGGCCATGCAGGCCAGCAGGGTACAGCAGCCTGGTG
 TGGCTCTTCTCCAGCTGTACCTCTACTCTTATCAGCCTTTCATCTACATGGTGTGAGCCTCTTCA
 TTGCACTCATACCGCGCCTATGACACCATCAAGCACCCAGGAGTACTGGCACAGAGAAGAGTGAGCT
 CCAGGCCATACATCGAGCAGTGCCAGGATAGCCCCACATCTGGCAAGTCCGTCGTGGCAGTGGCTCAGCT
 TGTAGCCTTTTCTGCTGTGTGGAAGGGACTCCCGGAGGACCATTGCTGCTGGTGAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR225390 protein sequence
 Red=Cloning site Green=Tags(s)

MATPAGRRASETERLLTPNPGYGTQVGTSPAPTPTEEDLRRRLKYFFMSPCDKFRAKGRKPCKLMLQV
 VKILVVTVQLILFGLSNQLVVFREENTIAFRHLFLLGYSDDTFAAYTQEQLYQAIIFYAVDQYLILP
 EISLGRYAYVRGGGPWANGSALALCQRYHRGHVDPANDTFDIDPRVVDQIQVDPDRPPDIPSEDL
 FLDGSASYKNLTLKFHKLINVTIHFQLKTINLQSLINNEIPDCYFSLITFDNKAHSGRIPIRLETKTH
 IQECKHPSVSRHGDNSFRLLFDVVVILTCSL SLLCARSLLRGFLQNEFVVFMRRRRGREISLWERLEF
 VNGWYIILLVTSVLTISGTVMKIGIEAKNLASYDVCSILLGTSTLLVWGVIRYLTFHKNILIIATLRV
 ALPSVMRFCCCVAVIYLYGFCGWIVLGPYHVKFRSLSMVSECLFSLINGDDMFVTFAMQAQQGHSSLV
 WLFSQLYLYSFIISLIYMYLSLFIALITGAYDTIKHPGGTGTEKSELQAYIEQCQDSPTSGKFRRSGSA
 CSLFCCCGRDSPEDHSLLVN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:

ACCN:

NM_053177

ORF Size:

1743 bp

OTI Disclaimer:

Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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).

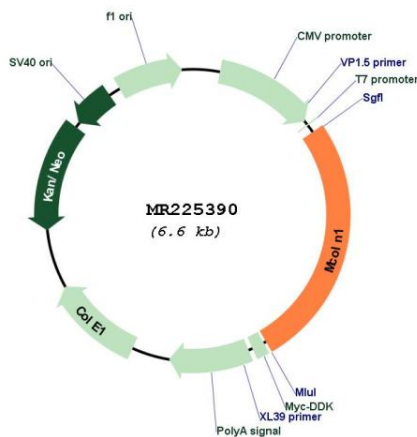
Reconstitution Method:

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_053177.1, NP_444407.1](#)
RefSeq Size: 2039 bp
RefSeq ORF: 1743 bp
Locus ID: 94178
UniProt ID: [Q99J21](#)
Cytogenetics: 8 1.92 cM
MW: 65.5 kDa

Gene Summary: Nonselective cation channel probably playing a role in the regulation of membrane trafficking events and of metal homeostasis (PubMed:29019981). Proposed to play a major role in Ca(2+) release from late endosome and lysosome vesicles to the cytoplasm, which is important for many lysosome-dependent cellular events, including the fusion and trafficking of these organelles, exocytosis and autophagy. Required for efficient uptake of large particles in macrophages in which Ca(2+) release from the lysosomes triggers lysosomal exocytosis. May also play a role in phagosome-lysosome fusion (PubMed:23993788). Involved in lactosylceramide trafficking indicative for a role in the regulation of late endocytic membrane fusion/fission events. By mediating lysosomal Ca(2+) release is involved in regulation of mTORC1 signaling and in mTOR/TFEB-dependent lysosomal adaptation to environmental cues such as nutrient levels (PubMed:25733853). Seems to act as lysosomal active oxygen species (ROS) sensor involved in ROS-induced TFEB activation and autophagy (By similarity). Functions as a Fe(2+) permeable channel in late endosomes and lysosomes. Proposed to play a role in zinc homeostasis probably implicating its association with TMEM163 (By similarity). In adaptive immunity, TRPML2 and TRPML1 may play redundant roles in the function of the specialized lysosomes of B cells (PubMed:17050035).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR225390