

## Product datasheet for **RC207184**

### Mitofusin 1 (MFN1) (NM\_033540) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Mitofusin 1 (MFN1) (NM_033540) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mitofusin 1
Synonyms:	hfzo1; hfzo2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC207184 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCAGAACCTGTTTCTCCACTGAAGCACTTTGTGCTGGCTAAGAAGGCGATTACTGCAATCTTTGACC  
 AGTTACTGGAGTTTGTACTGAAGGATCACATTTTGTGAAGCAACATATAAGAATCCGGAACCTGATCG  
 AATAGCCACTGAAGATGATCTGGTAGAAATGCAAGGATATAAAGACAAGCTTTCCATCATTGGTGAGGTG  
 CTATCTCGGAGACACATGAAGGTGGCATTTTTTGGCAGGACAAGCAGTGGGAAGAGCTCTGTTATCAATG  
 CAATGTTGTGGGATAAAGTTCTCCCTAGTGGGATTGGCCATATAACCAATTGCTTCTAAGTGTGAAGG  
 AACTGATGGAGATAAAGCCTATCTTATGACAGAAGGATCAGATGAAAAAAGAGTGTGAAGACAGTTAAT  
 CAACTGGCCCATGCCCTTACATGGACAAAGATTTGAAAGCTGGTGTCTTGTACGTGTGTTTTGGCCAA  
 AAGCAAAATGTGCCCTTGTAGAGATGACCTGGTGTAGTAGACAGTCCAGGCACAGATGCTACTACAGA  
 GCTGGATAGCTGGATTGATAAGTTTTGCCTAGATGCTGATGTCTTTGTTTTGGTCGAAACTCTGAATCA  
 AACTAATGAATACGGAAAAACACTTTTTTTCACAAGGTGAATGAGCGGCTTTCGAAGCCTAATTTTTCA  
 TTCTCAATAATCGTTGGGATGCCTCTGCATCAGAGCCAGAATATATGGAAGACGTACGCAGACAGCAT  
 GGAAAGATGCCTGCATTTCTTGGTGGAGGAGCTCAAAGTTGTAATGCTTTAGAAGCACAGAATCGTATC  
 TTCTTTGTTTCAGCAAAGGAAGTTCTTAGTGCTAGAAAGCAAAAAGCACAGGGGATGCCAGAAAGTGGTG  
 TGGCACTTGCTGAAGGATTTTCATGCAAGATTACAGGAATTTGAGAATTTGAACAAATCTTTGAGGAGTG  
 TATCTCGCAGTCAGCAGTAAAAACAAAGTTGCAACAGCACACTATCAGAGCTAACAGATACTAGCTACT  
 GTGAAAAACATAATGGATTGATGACTGGACTTTATTCGAAACCAGATGAACCTTTTAACTGGATGTTAAGAAAA  
 AATCAAGGAGGTTACCGAGGAGGTGGCAACAAAGTTTCATGTGCAATGACAGATGAAATTTGTGACTG  
 TCTGTTTTGTTGATGAATTTTGTTCAGAGTTTTCATCCTAATCCAGATGTATAAAAATATATAAAGTG  
 AATTAATAAGCACATAGAGGATGGTATGGGAAGAAATTTGGCTGATCGATGCACCGATGAAGTAAACGC  
 CTTAGTGCTTCAGACCCAGCAAGAAATTTGAAAATTTGAAGCCATTACTTCCAGCTGGTATACAGGAT  
 AAATACTACACTGATCCCTTGAAGAAATTTGATCTCAGTTAATCTAAATTACCACAAGTTATGTT  
 CAGATTTTCAAGAGGATATTGTATTTCTGTTTTCCCTGGGCTGGTCTTCCCTGTACATCGATTTTTGGG  
 CCCTAGAAATGCTCAAAGGTGCTCCTAGGATTATCAGAGCCTATCTTTCAGCTCCCTAGATCTTTAGCT  
 TCTACTCCACTGCTCCTACCACTCCAGCAACGCCAGATAATGCATCACAGGAAGAACTCATGATTACAT  
 TAGTAACAGGATTGGCGTCCGTTACATCTAGAACTTCTATGGGCATCATTATTGTTGGAGGAGTGAATTTG  
 GAAAACTATAGGCTGGAACTCCTATCTGTTTCATTAECTATGTATGGAGCTTTGTATCTTTATGAAGA  
 CTGAGCTGGACCACCCATGCCAAGGAGCGAGCCTTTAAACAGCAGTTTGTAAACTATGCAACTGAAAAAC  
 TGAGGATGATTGTTAGCTCCACGAGTGCAACTGCAGTCACCAAGTAAAAACAACAAATAGCTACCACTTT  
 TGCTCGCCTGTGCCAACAAAGTTGATATTACTCAAAAACAGCTGGAAGAAGAAATTTGCTAGATTACCCAAA  
 GAAATAGATCAGTTGGAGAAAAACAAAACAATCAAAGCTCTTAAGAAATAAAGCTGTTCAACTTGAAA  
 ATGAGCTGGAGAATTTTACTAAGCAGTTTCTACCTTCAAGCAATGAAGAATCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC207184 protein sequence  
Red=Cloning site Green=Tags(s)

MAEPVSPLKHFVLAKKAITAIFDQLLEFVTEGSHFVEATYKNPELDRIATEDDLVEMQGYKDKLSIIGEV  
 LSRRHMKVAFFGRTSSGKSSVINAMLWDKVLPSGIGHITNCFLSVEGTGDKAYLMTEGSDEKKS SVKTVN  
 QLAHALHMDKDLKAGCLVRVFWPKAKCALLRDDLVLVDSPTGDTVTELD SWIDKFCLDADVFVLVANSE  
 TLMNTEKHFFHKVNERLSKPNIFILNNRWDASASEPEYMEDVRRQHMERCLHFLVEELKVVNALEAQNRI  
 FFVSAKEVLSARKQKAQMPESGVALAEGFHARLQEFQNF EQIFEECISQSAVKTKFEQHTIRAKQILAT  
 VKNIMDSVNLAAEDKRHYSVEEREDQIDRLDFIRNQMNLLTLDVKKKIKEVTEEVANKVSCAMTDEICRL  
 SVLVDFECSEFHPNPDVLKIYKSELNKHIEDGMGRNLADRCTDEVNALVLQTQEQEIIENLKPLLPAQIQD  
 KLHTLIPCKKFDLSYNLNYHKLCSDFQEDIVFRFSLGWSSLVHRFLGPRNAQRVLLGLSEPIQLPRSLA  
 STPTAPTTPATPDNASQEELMITLVTGLASVTSRTSMGIIIVGGVIWKTIGWKLLSVSLTMYGALYLYER  
 LSWTTHAKERAFKQQFVNYATEKLRMIVSSTSANC SHQVKQIATTFARLCQQVDITQKQLEEEIARLPK  
 EIDQLEKIQNNSKLLRNKAVQLENELENF TKQFLPSSNEES

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6140\\_e09.zip](https://cdn.origene.com/chromatograms/mk6140_e09.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_033540

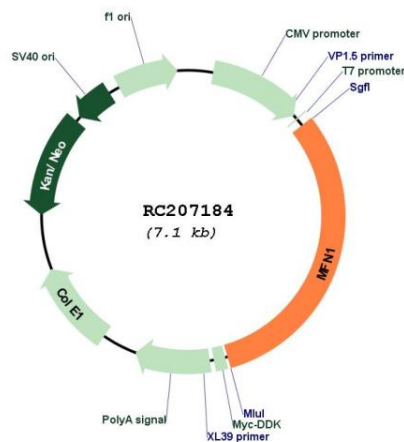
**ORF Size:** 2223 bp

**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](#)

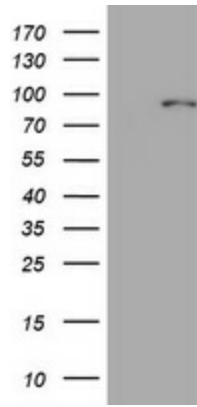
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_033540.3</a>
<b>RefSeq Size:</b>	3527 bp
<b>RefSeq ORF:</b>	2226 bp
<b>Locus ID:</b>	55669
<b>UniProt ID:</b>	<a href="#">Q8IWA4</a>
<b>Cytogenetics:</b>	3q26.33
<b>Domains:</b>	fzo_mitofusin
<b>MW:</b>	84.2 kDa
<b>Gene Summary:</b>	The protein encoded by this gene is a mediator of mitochondrial fusion. This protein and mitofusin 2 are homologs of the Drosophila protein fuzzy onion (Fzo). They are mitochondrial membrane proteins that interact with each other to facilitate mitochondrial targeting. [provided by RefSeq, Jul 2008]

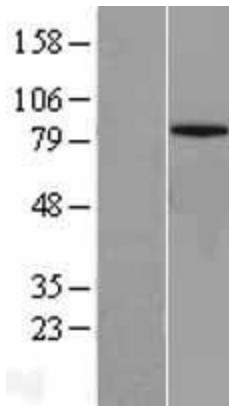
### Product images:



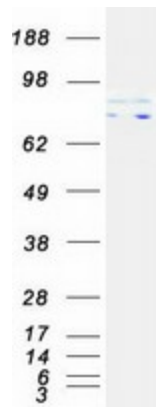
Circular map for RC207184



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MFN1 (Cat# RC207184, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MFN1 (Cat# [TA802148]). Positive lysates [LY403252] (100ug) and [LC403252] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY403252]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC207184 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MFN1 protein (Cat# [TP307184]). The protein was produced from HEK293T cells transfected with MFN1 cDNA clone (Cat# RC207184) using MegaTran 2.0 (Cat# [TT210002]).