

## Product datasheet for **MC228871**

### **Mfn2 (NM\_001285920) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Mfn2 (NM_001285920) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Mfn2
Synonyms:	D630023P19Rik; Fzo
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >MC228871 representing NM\_001285920  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGTCCTGCTCTTTTCTCGATGCAACTCCATCGTCACCGTCAAGAAGGATAAGCGACACATGGCTGAAG  
 TGAATGCTTCCCCTCTCAAGCACTTTGTCAGTCCCAAGAAAAAGATCAATGGAATCTTTGAGCAGCTGGG  
 GGCTACATCCAAGAGAGCGCCAGCTTCCCTGAAGACACCCACAGGAACACAGAAGTGGACCCGGTTACC  
 ACGGAAGAGCAGGTCTGGACGTCAAAGGGTACCTGTCCAAGGTCAAGGGTATCAGCGAAGTGTGGCCA  
 GGCGGCACATGAAGGTGGCTTTTTTGGCCGACGAGCAATGGGAAGAGCACCGTGTCAATGCCATGCT  
 CTGGGACAAAGTTCTGCCATCTGGGATTGGTACATACCACCAATTGCTTCTCGGGTTGGGGCACAGAT  
 GGCCATGAGGCCCTTCTCCTCACAGAGGGCTCAGAAGAGAAGAAGAGTGTCAAGACTGTGAACCAACTGG  
 CCCATGCCCTCCATCAGGACGAGCAGTTGCATGCAGGCAGCATGGTGAGTGTGATGTGGCCAACTCCAA  
 GTGTCCGCTCCTGAAGGATGACCTCGTGTGATGGACAGCCCTGGGATCGATGTTACCACGGAGCTGGAC  
 AGCTGGATTGATAAGTTTTGCCTGGATGCTGATGTGTTTGTGCTGGTGGCCAACCTCAGAGTCCACGCTGA  
 TGCAGACGGAGAAGCAGTCTTCCACAAAGTGAGTGAACGTCTCTCCCGCCCAACATCTTCATCTGAA  
 CAACCGCTGGGATGCGTCTGCCTCGGAGCCTGAGTACATGGAGGAGGTGCGGCGGCAGCACATGGAGCGC  
 TGCACCAGCTTTCTGGTGGATGAGCTGGGCGTGGTGGATCGAGCTCAGGCTGGGGACCGGATCTTCTTCG  
 TGTCTGCCAAGGAGGTTCTCAGCGCCAGGGTCCAGAAAGCCAGGGCATGCCAGAAGGAGGCGGCGCTCT  
 CGCAGAAGGTTTTCAAGTGAGGATGTTTGAATTTGAGATTTGAGAGGAGGTTTGAAGAGTGCATTTCC  
 CAGTCTGCAGTAAAGACCAAAATTTGAGCAGCACACAGTCCGGGCAAGCAGATTGCAGAGCCGTTCTGCT  
 TCATCATGGATTCCCTGCACATCGCAGCTCAGGAGCAGCGGGTTTATTGCCTAGAAATGCGGGAAGAGCG  
 GCAAGACCGGCTGAGGTTTATTGACAAGCAGCTGGAGCTCCTGGCTCAAGACTACAAGCTGCGAATTAAG  
 CAGATTACGGAGGAAGTGAAAGGCAGGTGCCACAGCCATGGCTGAAGAGATCAGGCGCCTCTCTGTGC  
 TAGTTGACGAGTACCAGATGGACTTCCACCCATCCCCAGTTGCTCCTCAAGGTTTATAAGAACGAGCTGCA  
 CCGCCATATAGAGGAAGGTCTGGGCCGGAACCTGTCTGACCGCTGCTCCACTGCCATTGCCAGTTCACTG  
 CAGACTATGCAGCAGGACATGATAGACGGCTTGAAGCCCCTTCTCCTGTATCTATGCGGAATCAGATAG  
 ACATGCTGGTCCCTCGACAGTGTCTCCCTCAGCTATGACCTGAATTGTGACAAGCTGTGTGCTGACTT  
 TCAGGAGGACATCGAGTCCACTTCTCCCTGGATGGACTATGCTAGTGAACAGGTTCTGGGCCCAAG  
 AATAGCCGCCGGCCTTGTAGGCTACAGTGTAGGTTGAGCTCCTCTCCCTGACACCTGCCAACC  
 CCAGCATGCCCCCTTGCCACAGAGCTCCCTCACCCAGGAGGAGCTCATGGTCTCCATGGTACTGGCCT  
 GGCTCTCTGACGTCTAGGACCTCCATGGCATTCTTGTGGTCCGAGGAGTGGTGTGGAAGGCAGTGGGC  
 TGGAGACTCATCGCCCTCTCTTTGGACTGTATGGCCTCCTGTACGTCTATGAGCGACTGACCTGGACCA  
 CCAAAGCCAAAGAGAGGGCCTTCAAGCGCCAGTTTGTGGAATACGCCAGTGAGAAGCTACAGCTCATCAT  
 CAGTTACACCGGCTCTAACTGCAGCCACCAAGTCCAGCAGGAATTGTCTGGGACATTTGCTCATCTGTGC  
 CAGCAAGTTGACATACCCGAGATAATCTGGAGCAGGAAATTGCTGCCATGAACAAGAAAGTCGAGGCTC  
 TGGATTCACTTCAGAGCAGAGCCAACTGCTCAGGAATAAAGCTGGCTGGTTGGACAGCGAACTCAACAT  
 GTTCACACACCAGTACCTGCAGCCAGCAGATAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI  
**ACCN:** NM\_001285920  
**Insert Size:** 2274 bp

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
<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>RefSeq:</b>	<a href="#">NM_001285920.1</a> , <a href="#">NP_001272849.1</a>
<b>RefSeq Size:</b>	4559 bp
<b>RefSeq ORF:</b>	2274 bp
<b>Locus ID:</b>	170731
<b>UniProt ID:</b>	<a href="#">Q80U63</a>
<b>Cytogenetics:</b>	4 E1

**Gene Summary:**

Mitochondrial outer membrane GTPase that mediates mitochondrial clustering and fusion (PubMed:12527753, PubMed:23921378, PubMed:23620051). Mitochondria are highly dynamic organelles, and their morphology is determined by the equilibrium between mitochondrial fusion and fission events. Overexpression induces the formation of mitochondrial networks. Membrane clustering requires GTPase activity and may involve a major rearrangement of the coiled coil domains (By similarity). Plays a central role in mitochondrial metabolism and may be associated with obesity and/or apoptosis processes. Plays an important role in the regulation of vascular smooth muscle cell proliferation (By similarity). Involved in the clearance of damaged mitochondria via selective autophagy (mitophagy). Is required for PRKN recruitment to dysfunctional mitochondria (PubMed:23620051). Involved in the control of unfolded protein response (UPR) upon ER stress including activation of apoptosis and autophagy during ER stress (PubMed:23921556). Acts as an upstream regulator of EIF2AK3 and suppresses EIF2AK3 activation under basal conditions (PubMed:23921556).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) represents the longest transcript. All variants (1 through 7) encode the same protein.