

## Product datasheet for **MC228872**

### **Mfn2 (NM\_001285921) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Mfn2 (NM_001285921) 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:** >MC228872 representing NM\_001285921  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCCTGCTCTTTTCTCGATGCAACTCCATCGTCACCGTCAAGAAGGATAAGCGACACATGGCTGAAG  
 TGAATGCTTCCCCTCTCAAGCACTTTGTCAGTCCCAAGAAAAAGATCAATGGAATCTTTGAGCAGCTGGG  
 GGCTACATCCAAGAGAGCGCCAGCTTCCCTGAAGACACCCACAGGAACACAGAAGTGGACCCGGTTACC  
 ACGGAAGAGCAGGTCTGGACGTCAAAGGGTACCTGTCCAAGGTCAAGGGTATCAGCGAAGTGTGGCCA  
 GGCGGCACATGAAGGTGGCTTTTTTGGCCGACGAGCAATGGGAAGAGCACCGTGATCAATGCCATGCT  
 CTGGGACAAAGTTCTGCCATCTGGGATTGGTACATACCACCAATTGCTTCTCGGGTTGGGGCACAGAT  
 GGCCATGAGGCCCTTCTCCTCACAGAGGGCTCAGAAGAGAAGAAGAGTGTCAAGACTGTGAACCAACTGG  
 CCCATGCCCTCCATCAGGACGAGCAGTTGCATGCAGGCAGCATGGTGAGTGTGATGTGGCCAACTCCAA  
 GTGTCCGCTCCTGAAGGATGACCTCGTGTGATGGACAGCCCTGGGATCGATGTTACCACGGAGCTGGAC  
 AGCTGGATTGATAAGTTTTGCCTGGATGCTGATGTGTTTGTGCTGGTGGCCAACCTCAGAGTCCACGCTGA  
 TGCAGACGGAGAAGCAGTTCTTCCACAAAGTGAGTGAACGTCTCTCCCGCCCAACATCTTCATCTGAA  
 CAACCGCTGGGATGCGTCTGCCTCGGAGCCTGAGTACATGGAGGAGGTGCGGCGGCAGCACATGGAGCGC  
 TGCACCAGCTTTCTGGTGGATGAGCTGGGCGTGGTGGATCGAGCTCAGGCTGGGGACCGGATCTTCTTCG  
 TGTCTGCCAAGGAGGTTCTCAGCGCCAGGGTCCAGAAAGCCAGGGCATGCCAGAAGGAGGCGGCGCTCT  
 CGCAGAAGTTTTCAAGTGAGGATGTTTGAATTTGAGATTTGAGAGGCAAGTTCAGAGGAGTGCATTTCC  
 CAGTCTGCAGTAAAGACCAAAATTTGAGCAGCACACAGTCCGGGCAAGCAGATTGCAGAGCCGTTTCGTC  
 TCATCATGGATTCCCTGCACATCGCAGCTCAGGAGCAGCGGGTTTATTGCCTAGAAATGCGGGAAGAGCG  
 GCAAGACCGGCTGAGGTTTATTGACAAGCAGCTGGAGCTCCTGGCTCAAGACTACAAGCTGCGAATTAAG  
 CAGATTACGGAGGAAGTGAAAGGCAGGTGCCACAGCCATGGCTGAAGAGATCAGGCGCCTCTCTGTGC  
 TAGTTGACGAGTACCAGATGGACTTCCACCCATCCCCAGTTGCTCCTCAAGGTTTATAAGAACGAGCTGCA  
 CCGCCATATAGAGGAAGGTCTGGGCCGGAACCTGTCTGACCGCTGCTCCACTGCCATTGCCAGTTCACTG  
 CAGACTATGCAGCAGGACATGATAGACGGCTTGAAGCCCCTTCTCCTGTATCTATGCGGAATCAGATAG  
 ACATGCTGGTCCCTCGACAGTGTTCCTCCTCAGCTATGACCTGAATTGTGACAAGCTGTGTGCTGACTT  
 TCAGGAGGACATCGAGTCCACTTCTCCCTGGATGGACTATGCTAGTGAACAGGTTCTGGGCCCAAG  
 AATAGCCGCCGGCCTTGTAGGCTACAGTGTAGGTTGAGCTCCTCTCCCTGACACCTGCCAACC  
 CCAGCATGCCCCCTTGCCACAGAGCTCCCTCACCCAGGAGGAGCTCATGGTCTCCATGGTTACTGGCCT  
 GGCTCTCTGACGTCTAGGACCTCCATGGCATTCTTGTGGTCCGAGGAGTGGTGTGGAAGGCAGTGGGC  
 TGGAGACTCATCGCCCTCTCTTTGGACTGTATGGCCTCCTGTACGTCTATGAGCGACTGACCTGGACCA  
 CCAAAGCCAAAGAGAGGGCCTTCAAGCGCCAGTTTGTGGAATACGCCAGTGAGAAGCTACAGCTCATCAT  
 CAGTTACACCGGCTCTAACTGCAGCCACCAAGTCCAGCAGGAATTGTCTGGGACATTTGCTCATCTGTGC  
 CAGCAAGTTGACATACCCGAGATAATCTGGAGCAGGAAATTGCTGCCATGAACAAGAAAGTCGAGGCTC  
 TGGATTCACTTCAGAGCAGAGCCAACTGCTCAGGAATAAAGCTGGCTGGTTGGACAGCGAACTCAACAT  
 GTTCACACACCAGTACCTGCAGCCAGCAGATAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul  
**ACCN:** NM\_001285921  
**Insert Size:** 2274 bp

<b>OTI Disclaimer:</b>	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).
<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>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<u><a href="#">NM_001285921.1</a></u> , <u><a href="#">NP_001272850.1</a></u>
<b>RefSeq Size:</b>	4542 bp
<b>RefSeq ORF:</b>	2274 bp
<b>Locus ID:</b>	170731
<b>UniProt ID:</b>	<u><a href="#">Q80U63</a></u>
<b>Cytogenetics:</b>	4 E1
<b>Gene Summary:</b>	<p>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]</p> <p>Transcript Variant: This variant (3) differs in the 5' UTR compared to variant 1. All variants (1 through 7) encode the same protein.</p>