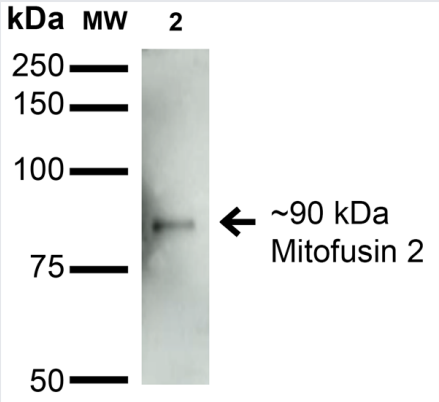
Mitofusin 2 (MFN2) Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	Mitofusin 2 (Mfn2), Monoclonal Antibody
Full Product Name	Mitofusin 2 Antibody: ATTO 488
Product Gene Name	anti-Mfn2 antibody
Product Synonym Names	CMT2A; CMT2A2; CPRP 1; CPRP1; Fzo; HSG; hyperplasia suppressor gene; Hypertension related protein 1; KIAA0214; MARF; MFN 2; Mfn2; Mitochondrial assembly regulatory factor; Mitofusin-2; Mitofusin2; Transmembrane GTPase MFN2
Clonality	Monoclonal
Isotype	IgG2a
Clone Number	S153-5
Host	Mouse
Species Reactivity	Mouse, Rat
Form/Format	Protein G Purified
Concentration	1mg/mL (lot specific)
Preparation and Storage	-20 degree C
Matching Pairs	Unconjugated Antibody: N/A (MBS802442) ATTO 488 Conjugated Antibody: Mitofusin 2 Clone #S153-5 (MBS802442)
Matching Pairs	Unconjugated Antibody: Mitofusin 2 Clone #S153-5 (MBS803794) ATTO 488 Conjugated Antibody: Mitofusin 2 Clone #S153-5 (MBS802442)
Molecular Weight	68,938 Da
3D Structure	ModBase 3D Structure for Q80U63
Conjugate	ATTO 488
Storage Buffer	PBS pH 7.4, 50% glycerol, 0.1% sodium azide
Product Categories/Family for anti-Mfn2 antibody	Neuroscience
Applications Tested/Suitable for anti-Mfn2 antibody	Western Blot (WB), Immunocytochemistry (ICC), Immunohistochemistry (IHC)
Application Notes for anti-Mfn2 antibody	1:1000 WB
Related Product Information for anti-Mfn2 antibody	**Background Info:** Detects a 90 kDa protein. No cross-reactivity against Mitofusin-1. **Scientific Background:** Mitofusin-2 (Mfn2) is a membrane protein of the mitochondria and is important in mitochondrial fusion in mammalian cells. Mfn2 activity has also been implicated in mitochondrial metabolism and the loss of Mfn2 may be the reason for certain metabolic modifications that are seen in individuals with obesity. Mfn2 has been associated with maintaining the membrane potential of the mitochondria. Mfn2 has been shown to hinder mitochondrial antiviral signaling by inhibiting production of type 1 interferons. Mfn2 is a p53-inducible target and involved in cell proliferation, apoptosis promotion and tumor suppression.
Other Notes	Small volumes of anti-Mfn2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for Mfn2 purchase	MBS802442 is an antibody targeting Mfn2. Also known as Mitofusin 2 Antibody: ATTO 488. Reactive in Mouse, Rat. Host: Mouse.



Western Blot (WB) of anti-Mfn2 antibody
Western Blot analysis of Rat Brain Membrane showing detection of ~90 kDa Mitofusin 2 protein using Mouse Anti-Mitofusin 2 Monoclonal Antibody, Clone S153-5. Lane 1: Molecular Weight Ladder. Lane 2: Rat Brain Membrane. Load: 15 ug. Block: 2% BSA and 2% Skim Milk in 1X TBST. Primary Antibody: Mouse Anti-Mitofusin 2 Monoclonal Antibody at 1:200 for 16 hours at 4 degree C. Secondary Antibody: Goat Anti-Mouse IgG: HRP at 1:1000 for 1 hour RT. Color Development: ECL solution for 6 min in RT. Predicted/Observed Size: ~90 kDa.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Mfn2. It may not necessarily be applicable to this product.

NCBI GI #	120407048
NCBI GeneID	170731
NCBI Accession #	NP_573464.2
UniProt Primary Accession #	Q80U63
UniProt Secondary Accession #	Q3V3B8; Q80WP4; Q80XK3; Q8BHF0; Q8BKV5; Q8R535; Q923X2; A2A7Y7; A8Y5E4
UniProt Related Accession #	Q80U63
GenBank Nucleotide #	NM_133201.3
NCBI Official Full Name	mitofusin-2
NCBI Official Synonym Full Names	mitofusin 2
NCBI Official Symbol	Mfn2
NCBI Official Synonym Symbols	Fzo; D630023P19Rik
UniProt Protein Name	Mitofusin-2
UniProt Synonym Protein Names	Hypertension-related protein 1; Mitochondrial assembly regulatory factor; HSG protein; Transmembrane GTPase MFN2
Protein Family	Mitofusin
UniProt Gene Name	Mfn2
UniProt Synonym Gene Names	Kiaa0214; Marf; HSG protein
UniProt Entry Name	MFN2_MOUSE
NCBI Protein Information	mitofusin-2; HSG protein; transmembrane GTPase MFN2; hypertension related protein 1; hypertension-related protein 1; mitochondrial assembly regulatory factor

UniProt Comments for Mfn2	MFN2: Essential transmembrane GTPase, which mediates mitochondrial fusion. Fusion of mitochondria occurs in many cell types and constitutes an important step in mitochondria morphology, which is balanced between fusion and fission. MFN2 acts independently of the cytoskeleton. It therefore plays a central role in mitochondrial metabolism and may be associated with obesity and/or apoptosis processes. Overexpression induces the formation of mitochondrial networks. Plays an important role in the regulation of vascular smooth muscle cell proliferation. Defects in MFN2 are the cause of Charcot-Marie-Tooth disease type 2A2 (CMT2A2). CMT2A2 is a form of Charcot-Marie-Tooth disease, the most common inherited disorder of the peripheral nervous system. Charcot-Marie-Tooth disease is classified in two main groups on the basis of electrophysiologic properties and histopathology: primary peripheral demyelinating neuropathy or CMT1, and primary peripheral axonal neuropathy or CMT2. Neuropathies of the CMT2 group are characterized by signs of axonal regeneration in the absence of obvious myelin alterations, normal or slightly reduced nerve conduction velocities, and progressive distal muscle weakness and atrophy. Defects in MFN2 are the cause of Charcot-Marie-Tooth disease type 6 (CMT6); also referred to as autosomal dominant hereditary motor and sensory neuropathy VI (HMSN6). CMT6 is an autosomal dominant form of axonal CMT associated with optic atrophy. Belongs to the mitofusin family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Mitochondrial; Membrane protein, multi-pass; Cell cycle regulation; Cytoskeletal; EC 3.6.5.-; Hydrolase; Membrane protein, integral Cellular Component: microtubule cytoskeleton; mitochondrial outer membrane; membrane; mitochondrion; integral to membrane; cytosol; intrinsic to mitochondrial outer membrane Molecular Function: GTPase activity; protein binding; GTPase binding; GTP binding; hydrolase activity; ubiquitin protein ligase binding; nucleotide binding Biological Process: camera-type eye morphogenesis; mitochondrial fusion; negative regulation of smooth muscle cell proliferation; apoptosis; mitochondrial membrane organization and biogenesis; multicellular organismal development; autophagy; negative regulation of Ras protein signal transduction; blastocyst formation; mitochondrion localization; protein targeting to mitochondrion; response to unfolded protein
Research Articles on Mfn2	**1.** Mice lacking mitofusin 2 (Mfn2) in hearts have impaired parkin-mediated mitophagy leading to accumulation of damaged ROS-producing organelles and progressive heart failure.
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