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MFN2 Antibody
Catalog # ASC11816

Specification

MFN2 Antibody - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	O95140
Other Accession	NP_055689, 9927
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 83 kDa** **Observed: 90 kDa KDa**
Application Notes	**MFN2 antibody can be used for detection of MFN2 by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunohistochemistry at 5 µg/mL. For Immunoflorescence start at 20 µg/mL.**

MFN2 Antibody - Additional Information

Gene ID **9927**

Target/Specificity
MFN2 antibody was raised against a 17 amino acid peptide near the center of human MFN2.

The immunogen is located within amino acids 250 - 300 of MFN2.

Reconstitution & Storage
MFN2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
MFN2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

MFN2 Antibody - Protein Information

Name MFN2 {ECO:0000303|PubMed:12598526, ECO:0000312|HGNC:HGNC:16877}

Function
Mitochondrial outer membrane GTPase that mediates mitochondrial clustering and fusion (PubMed:11181170, PubMed:11950885, PubMed:19889647, PubMed:26214738, PubMed:28114303). Mitochondria are highly dynamic organelles, and their morphology is determined by the equilibrium between mitochondrial fusion and fission events (PubMed:28114303).

Overexpression induces the formation of mitochondrial networks (PubMed:28114303). Membrane clustering requires GTPase activity and may involve a major rearrangement of the coiled coil domains (Probable). Plays a central role in mitochondrial metabolism and may be associated with obesity and/or apoptosis processes (By similarity). 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) (PubMed:23620051). 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 (By similarity). Acts as an upstream regulator of EIF2AK3 and suppresses EIF2AK3 activation under basal conditions (By similarity).

Cellular Location
Mitochondrion outer membrane; Multi-pass membrane protein Note=Colocalizes with BAX during apoptosis

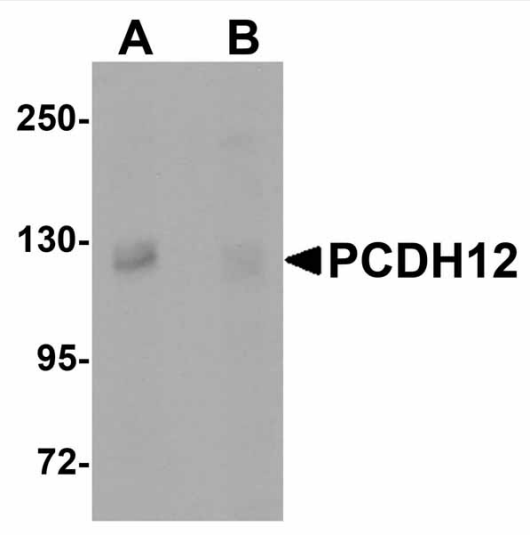
Tissue Location
Ubiquitous; expressed at low level. Highly expressed in heart and kidney.

MFN2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MFN2 Antibody - Images



Western blot analysis of PCDH12 in K562 cell lysate with PCDH12 antibody at 1 µg/mL in (A) the

absence and (B) the presence of blocking peptide.

MFN2 Antibody - Background

Mitofusin 2 (MFN2) and the related protein MFN1 are mitochondrial membrane GTPase proteins that play a central role in mitochondrial metabolism and may be associated with obesity and/or apoptosis processes (1,2). MFN2 is ubiquitously expressed, and found in both the ER and outer mitochondrial membrane. MFN2 has two key domains: a coiled coil region that mediates MFN2 binding and a GTPase domain that likely plays a role in fusion (3,4). Both domains are essential for embryonic development and may play a role in the pathobiology of obesity. Overexpression of MFN2 causes mitochondrial dysfunction and cell death (5).

MFN2 Antibody - References

Chen H, Detmer SA, Ewald AJ, et al. Mitofusins Mfn1 and Mfn2 coordinately regulate mitochondrial fusion and are essential for embryonic development. J. Cell Biol. 2003; 160:189-200.
Ishihara N, Eura Y, and Mihara K. Mitofusin 1 and 2 play distinct roles in mitochondrial fusion reactions via GTPase activity. J. Cell Sci. 2004; 117:6535-46.
Bach D, Pich S, Soriano FX, et al. Mitofusin-2 determines mitochondrial network architecture and mitochondrial metabolism. A novel regulatory mechanism altered in obesity. J. Biol. Chem. 2003; 278:17190-7.
Renaldo F, Amati-Bonneau P, Slama A, et al. MFN2, a new gene responsible for mitochondrial DNA depletion. Brain 2012; 135:e223, 1-4.