

**MFN1 Antibody**  
Catalog # ASC11815**Specification**

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**MFN1 Antibody - Product Information**

Application	WB, ICC
Primary Accession	<a href="#">Q8IWA4</a>
Other Accession	<a href="#">NP_284941</a> , <a href="#">45269137</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 82 kDa

Application Notes	<b>Observed: 83 kDa KDa</b> MFN1 antibody can be used for detection of MFN1 by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunocytochemistry at 5 µg/mL.
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**MFN1 Antibody - Additional Information**

Gene ID **55669**

**Target/Specificity**

MFN1; MFN1 antibody is human, mouse and rat reactive. MFN1 antibody is predicted to not cross-react with MFN2.

**Reconstitution & Storage**

MFN1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**Precautions**

MFN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**MFN1 Antibody - Protein Information**

Name MFN1

**Function**

Mitochondrial outer membrane GTPase that mediates mitochondrial clustering and fusion (PubMed: [12475957](http://www.uniprot.org/citations/12475957)), PubMed: [12759376](http://www.uniprot.org/citations/12759376), PubMed: [27920125](http://www.uniprot.org/citations/27920125), PubMed: [28114303](http://www.uniprot.org/citations/28114303)). Membrane clustering requires GTPase activity (PubMed: [27920125](http://www.uniprot.org/citations/27920125)). It may involve a major rearrangement of the coiled coil domains (PubMed: [27920125](http://www.uniprot.org/citations/27920125), PubMed: [28114303](http://www.uniprot.org/citations/28114303)). Mitochondria

are highly dynamic organelles, and their morphology is determined by the equilibrium between mitochondrial fusion and fission events (PubMed:<a href="http://www.uniprot.org/citations/12475957" target="\_blank">12475957</a>, PubMed:<a href="http://www.uniprot.org/citations/12759376" target="\_blank">12759376</a>). Overexpression induces the formation of mitochondrial networks (in vitro) (PubMed:<a href="http://www.uniprot.org/citations/12759376" target="\_blank">12759376</a>). Has low GTPase activity (PubMed:<a href="http://www.uniprot.org/citations/27920125" target="\_blank">27920125</a>, PubMed:<a href="http://www.uniprot.org/citations/28114303" target="\_blank">28114303</a>).

### Cellular Location

Mitochondrion outer membrane; Multi-pass membrane protein

### Tissue Location

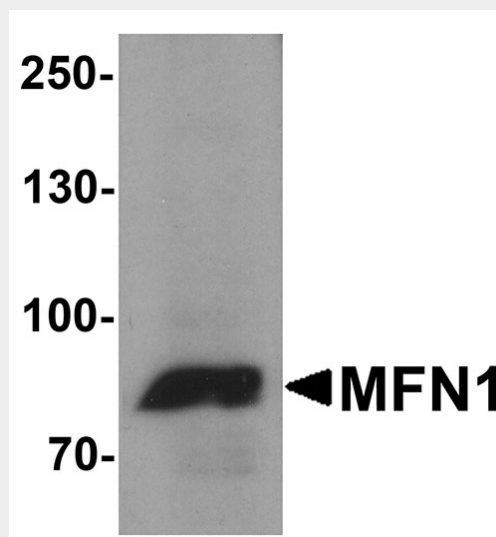
Detected in kidney and heart (at protein level) (PubMed:12759376). Ubiquitous (PubMed:11950885, PubMed:12759376) Expressed at slightly higher level in kidney and heart (PubMed:12759376). Isoform 2 may be overexpressed in some tumors, such as lung cancers (PubMed:11751411).

### MFN1 Antibody - Protocols

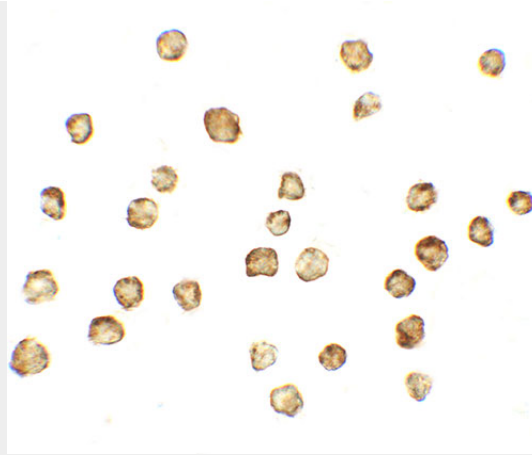
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### MFN1 Antibody - Images



Western blot analysis of MFN1 in A431 cell lysate with MFN1 antibody at 1 µg/ml.



Immunocytochemistry of MFN1 in A431 cells with MFN1 antibody at 5 µg/mL.

### **MFN1 Antibody - Background**

Mitofusin 1 (MFN1) and the related protein MFN2 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). MFN1 and MFN2 form homotypic and heterotypic complexes and coordinately regulate mitochondrial fusion and are essential for embryonic development (3). When ectopically expressed, MFN1 inhibits the apoptosis-associated amino-terminal conformational change in the apoptotic protein Bax but not its mitochondrial translocation, indicating that MFN1 is involved in the regulating the activation of Bax on the outer mitochondrial membrane (4).

### **MFN1 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.  
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.  
Ryu SW, Choi K, Park JH, et al. Mitofusin 1 inhibits an apoptosis-associated amino-terminal conformational change in Bax, but not its mitochondrial translocation, in a GTPase-dependent manner. *Cancer Lett.* 2012; 323:62-8.