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MFN1 Antibody

Catalog # ASC11815

Product Information

Application	WB, ICC, E
Primary Accession	Q8IWA4
Other Accession	NP_284941, 45269137
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	84160
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	MFN1 antibody can be used for detection of MFN1 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunocytochemistry at 5 g/mL.

Additional Information

Gene ID	55669
Other Names	Mitofusin-1, 3.6.5.-, Fzo homolog, Transmembrane GTPase MFN1, MFN1
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℃ for three months and -20℃, stable for up to one year.
Precautions	MFN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MFN1
Function	Mitochondrial outer membrane GTPase that mediates mitochondrial clustering and fusion (PubMed:12475957, PubMed:12759376, PubMed:27920125, PubMed:28114303). Membrane clustering requires GTPase activity (PubMed:27920125). It may involve a major rearrangement of the coiled coil domains (PubMed:27920125, PubMed:28114303). Mitochondria are highly dynamic organelles, and their morphology is determined by the equilibrium between mitochondrial fusion and fission events (PubMed:12475957, PubMed:12759376). Overexpression induces the formation of mitochondrial networks (in vitro) (PubMed:12759376). Has low GTPase activity (PubMed:27920125, PubMed:28114303).
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).

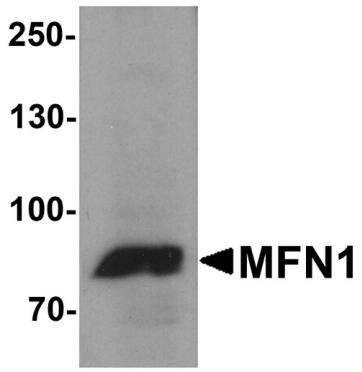
Background

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 conformation 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).

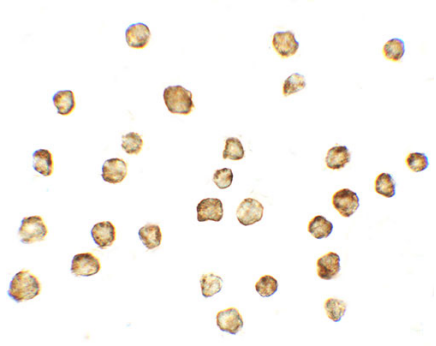
References

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.

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.

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