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MFN2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8840c

Product Information

Application	WB, FC, IHC-P, E
Primary Accession	O95140
Other Accession	Q8R500, Q80U63
Reactivity	Human, Mouse
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21136
Calculated MW	86402
Antigen Region	447-476

Additional Information

Gene ID	9927
Other Names	Mitofusin-2, 365-, Transmembrane GTPase MFN2, MFN2, CPRP1, KIAA0214
Target/Specificity	This MFN2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 447-476 amino acids from the Central region of human MFN2.
Dilution	WB~~1:1000 FC~~1:10~50 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MFN2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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.

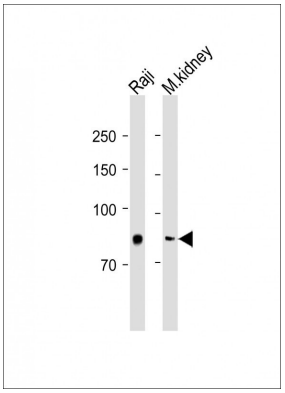
Background

MFN2 is a mitochondrial membrane protein that participates in mitochondrial fusion and contributes to the maintenance and operation of the mitochondrial network. This protein is involved in the regulation of vascular smooth muscle cell proliferation, and it may play a role in the pathophysiology of obesity. Mutations in this gene cause Charcot-Marie-Tooth disease type 2A2, and hereditary motor and sensory neuropathy VI, which are both disorders of the peripheral nervous system.

References

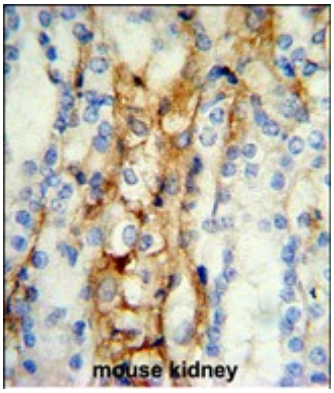
Calvo,J., et.al.,Arch. Neurol. 66 (12), 1511-1516 (2009)

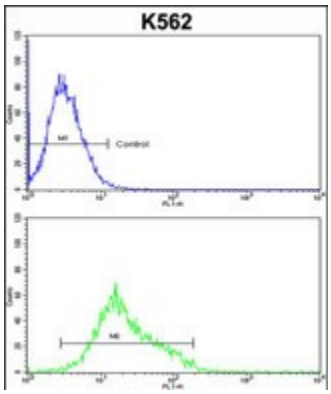
Images



All lanes: Anti-MFN2 Antibody (Center) at 1:2000 dilution Lane 1: Raji whole cell lysate Lane 2: Mouse kidney lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 86 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Formalin-fixed and paraffin-embedded mouse kidney reacted with MFN2 Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.





MFN2 Antibody (Center)(Cat. #AP8840c) flow cytometric analysis of k562 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- MCCC2 is a novel mediator between mitochondria and telomere and functions as an oncogene in colorectal cancer
- Downregulation of mitochondrial cyclooxygenase-2 inhibits the stemness of nasopharyngeal carcinoma by decreasing the activity of dynamin-related protein 1.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.