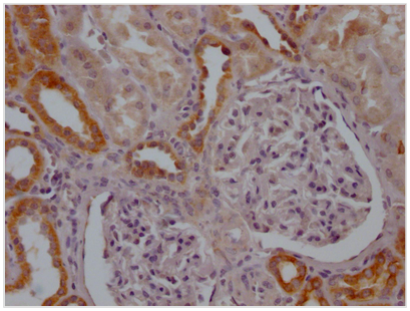
MFN2 Recombinant Monoclonal Antibody

Product Code	CSB-RA799368A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	O95140
Immunogen	A synthesized peptide derived from human Mitofusin 2
Species Reactivity	Human
Tested Applications	ELISA, IHC; Recommended dilution: IHC:1:50-1:200
Relevance	Mitochondrial outer membrane GTPase that mediates mitochondrial clustering and fusion (PubMed:11181170, PubMed:11950885, 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).
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Neuroscience; Cancer; Cell biology; Tags & Cell Markers; Metabolism; Signal transduction
Gene Names	MFN2
Clone No.	10F6
Image	



IHC image of CSB-RA799368A0HU diluted at 1:100 and staining in paraffin-embedded human kidney tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

The process of manufacturing the MFN2 recombinant antibody consists of four steps. Firstly, the MFN2 monoclonal antibody gene is sequenced, followed by cloning the gene into a plasmid vector. Next, the recombinant vector is introduced into a host cell line, after which the MFN2 recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. The MFN2 monoclonal antibody is derived from the MFN2 antibody-producing hybridomas, with a synthesized peptide from human MFN2 being used as the immunogen during the production process. This MFN2 recombinant monoclonal antibody is highly recommended for use in detecting human MFN2 protein in ELISA and IHC applications.

MFN2 is a transmembrane protein that resides in the outer mitochondrial membrane, where it plays a key role in the fusion of mitochondria. MFN2 interacts with its homolog MFN1 on the outer mitochondrial membrane of adjacent mitochondria, leading to the tethering and fusion of the organelles. This process is critical for the maintenance of mitochondrial integrity, the distribution of mitochondrial DNA, and the regulation of cellular metabolism. MFN2 has also been implicated in a variety of cellular processes, including apoptosis, autophagy, and cellular metabolism. The dysregulation of MFN2 has been linked to a variety of diseases, including neurological disorders, metabolic disorders, and cardiovascular disease.