**BACKGROUND**

Mitofusin 1 (Mfn1) and mitofusin 2 (Mfn2) are homologs for the *Drosophila* protein fuzzy onion (Fzo). They are mitochondrial membrane proteins and are mediators of mitochondrial fusion. A GTPase domain is required for Mfn protein function but the molecular mechanisms of the GTPase-dependent reaction as well as the functional division of the two Mfn proteins are unknown. They are essential for embryonic development and may play a role in the pathobiology of obesity. Although the Mfn1 and Mfn2 genes are broadly expressed, they show different levels of expression in different tissues. Two Mfn1 transcripts are elevated in heart, while Mfn2 mRNA is abundantly expressed in heart and muscle tissue but present only at low levels in many other tissues. Mfn1 localizes to mitochondria and participates in at least two different high molecular weight protein complexes in a GTP-dependent manner. Purified recombinant Mfn1 exhibited approximately eightfold higher GTPase activity than Mfn2.

**CHROMOSOMAL LOCATION**

Genetic locus: MFN1 (human) mapping to 3q26.33; Mfn1 (mouse) mapping to 3 A3.

**SOURCE**

Mfn1 (D-10) is a mouse monoclonal antibody raised against amino acids 10-74 mapping within an N-terminal cytoplasmic domain of Mfn1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mfn1 (D-10) is available conjugated to agarose (sc-166644 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166644 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-166644 PE), fluorescein (sc-166644 FITC), Alexa Fluor® 488 (sc-166644 AF488) or Alexa Fluor® 647 (sc-166644 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

**APPLICATIONS**

Mfn1 (D-10) is recommended for detection of Mitofusin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Mfn1 siRNA (h): sc-43927, Mfn1 siRNA (m): sc-60082, Mfn1 siRNA (r): sc-270320, Mfn1 shRNA Plasmid (h): sc-43927-SH, Mfn1 shRNA Plasmid (m): sc-60082-SH, Mfn1 shRNA Plasmid (r): sc-270320-SH, Mfn1 shRNA (h) Lentiviral Particles: sc-43927-V, Mfn1 shRNA (m) Lentiviral Particles: sc-60082-V and Mfn1 shRNA (r) Lentiviral Particles: sc-270320-V.

Molecular Weight of Mfn1: 86 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, PC-3 cell lysate: sc-2220 or K-562 whole cell lysate: sc-2203.

**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

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