

# Mfn2 (Y-19): sc-30366

## 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: MFN2 (human) mapping to 1p36.22; Mfn2 (mouse) mapping to 4 E2.

## SOURCE

Mfn2 (Y-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Mfn2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30366 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

Mfn2 (Y-19) is recommended for detection of Mitofusin 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Mfn2 (Y-19) is also recommended for detection of Mitofusin 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Mfn2 siRNA (h): sc-43928, Mfn2 siRNA (m): sc-60077, Mfn2 shRNA Plasmid (h): sc-43928-SH, Mfn2 shRNA Plasmid (m): sc-60077-SH, Mfn2 shRNA (h) Lentiviral Particles: sc-43928-V and Mfn2 shRNA (m) Lentiviral Particles: sc-60077-V.

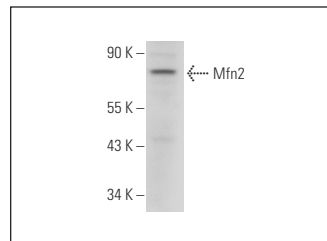
Molecular Weight of Mfn2: 86 kDa.

Positive Controls: C6 whole cell lysate: sc-364373.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Mfn2 (Y-19): sc-30366. Western blot analysis of Mfn2 expression in C6 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Guo, Y.H., et al. 2007. Overexpression of Mitofusin 2 inhibited oxidized low-density lipoprotein induced vascular smooth muscle cell proliferation and reduced atherosclerotic lesion formation in rabbit. *Biochem. Biophys. Res. Commun.* 363: 411-417.
- Navratil, M., et al. 2008. Giant mitochondria do not fuse and exchange their contents with normal mitochondria. *Exp. Cell Res.* 314: 164-172.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



Try **Mfn2 (XX-1): sc-100560**, our highly recommended monoclonal alternative to Mfn2 (Y-19).