

Anti-Mitofusin 1 MFN1 Antibody Picoband™ (monoclonal, 3H3)

Catalog Number: M02172-1

About MFN1

Mitofusin-1 is a protein that in humans is encoded by the MFN1 gene. It is an 8090 kDa mitochondrial member of the dynamin family of molecules. It is ubiquitously expressed, and found in the outer mitochondrial membrane. The protein encoded by this gene is a mediator of mitochondrial fusion, and thereby contribute to the dynamic balance between fusion and fission that determines mitochondria morphology. MFN1 is known to form oligomers, either with itself or MFN2, and to undergo ubiquitination by MARCH5. MFN1 has two key domains. One is a coiledcoil region that mediates MFN1: MFN1/2 binding, and a second is a GTPase domain whose cleavage of GTP is necessary for membrane fusion. Overexpression of MFN1 caused perinuclear mitochondrial clustering.

Overview

Product Name	Anti-Mitofusin 1 MFN1 Antibody Picoband™ (monoclonal, 3H3)
Reactive Species	Human
Description	Boster Bio Anti-Mitofusin 1 MFN1 Antibody Picoband™ (monoclonal, 3H3) catalog # M02172-1. Tested in IF, ICC, WB applications. This antibody reacts with Human.
Application	IF, ICC, WB
Clonality	Monoclonal 3H3
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Mouse
Uniprot ID	Q8IWA4

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminal of human Mitofusin 1, different from the related mouse and rat sequences by one amino acid.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti- Mouse IgG Super Vision Assay Kit (SV0001-1) for ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Human Immunocytochemistry/Immunofluorescence, 2ug/ml, Human

Anti-Mitofusin 1 MFN1 Antibody Picoband™ (monoclonal, 3H3) (M02172-1) Images

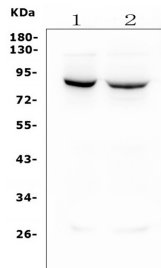


Figure 1. Western blot analysis of MFN1 using anti-MFN1 antibody (M02172-1).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

Lane 1: human HeLa tissue lysates,

Lane 2: human HepG2 whole cell lysates,

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes.

Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-MFN1 antigen affinity purified polyclonal antibody (Catalog # M02172-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1% Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for MFN1 at approximately 84KD. The expected band size for MFN1 is at 84KD.

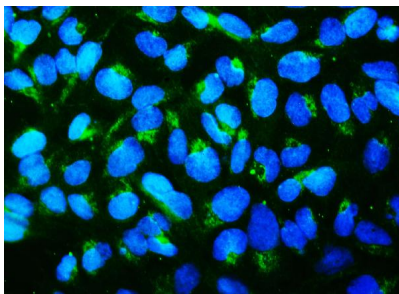


Figure 2. IF analysis of MFN1 using anti-MFN1 antibody (M02172-1).

MFN1 was detected in immunocytochemical section of U2OS cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2ug/mL mouse anti-MFN1 Antibody (M02172-1) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

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