Product Datasheet

Mitofusin 1 Antibody (11E9-1H12) - BSA Free
NBP1-71775

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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Publications: 18

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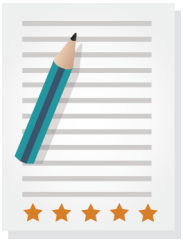
Updated 10/23/2024 v.20.1



NBP1-71775

Mitofusin 1 Antibody (11E9-1H12) - BSA Free

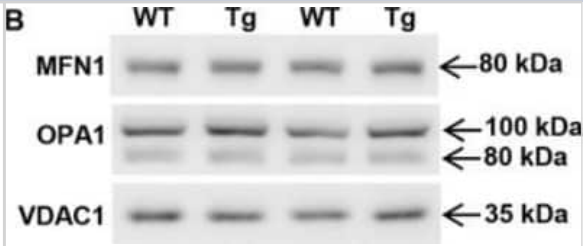
Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	11E9-1H12
Preservative	0.02% Sodium Azide
Isotype	IgG2b Kappa
Purity	Protein G purified
Buffer	PBS
Target Molecular Weight	80 kDa

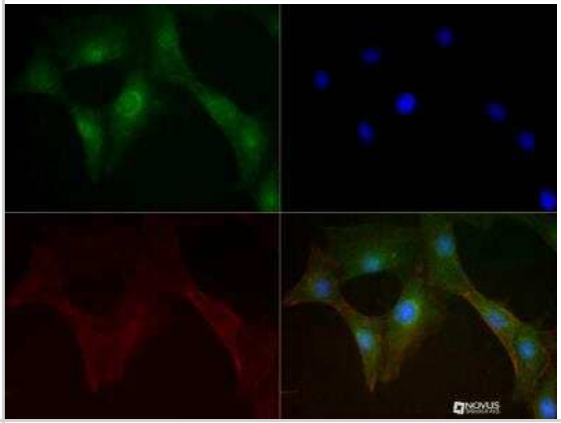
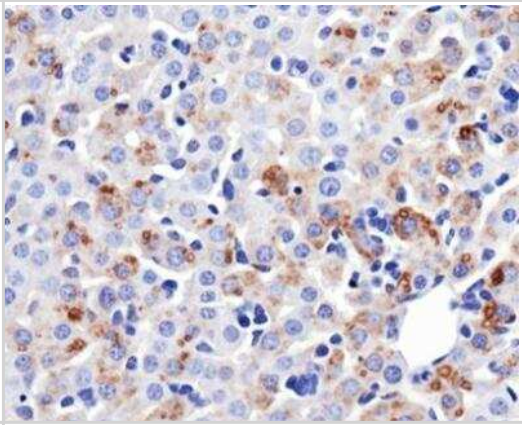
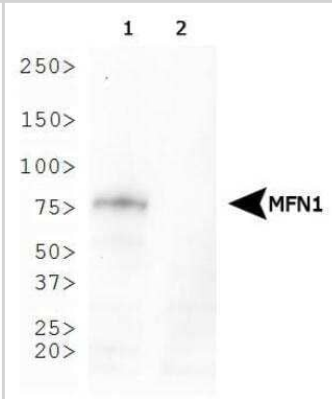
Product Description	
Host	Mouse
Gene ID	55669
Gene Symbol	MFN1
Species	Human, Mouse, Rat
Reactivity Notes	Rat reactivity reported in scientific literature (PMID: 23658809). Human reactivity reported in scientific literature (PMID: 24710686, 24928681).
Marker	Mitochondrial Fusion Marker
Immunogen	Mouse Mitofusin 1 [Swiss-Prot: Q811U4]

Product Application Details	
Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Knockout Validated
Recommended Dilutions	Western Blot 1:500-1:1000, Immunohistochemistry 1:100, Immunocytochemistry/ Immunofluorescence 1:100, Immunohistochemistry-Paraffin 1:100, Knockout Validated
Application Notes	In Western blot, a band can be seen at ~80 kDa.

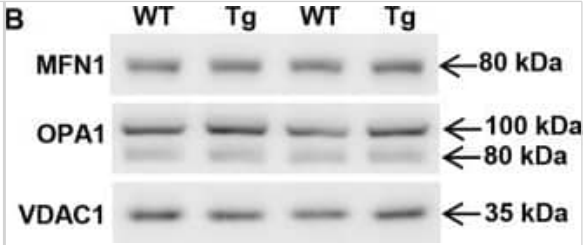
Images

Western Blot: Mitofusin 1 Antibody (11E9-1H12) [NBP1-71775] - Effect of AIF overexpression on mitochondrial fission and fusion in the cortex. Immunoblotting of OPA1 and Mitofusin 1 in the mitochondrial fraction from cortical tissue of the CL and IL hemispheres at 24 h after HI in WT and AIF Tg mice. The expression of Mitofusin 1 was significantly decreased at 24 h post-HI both in WT and AIF Tg mice, while the short form (82 kDa) and cleavage band of OPA1 were significantly increased at 24 h post-HI in both the WT and AIF Tg mice. Quantification of OPA1 and Mitofusin 1 did not show any significant differences in the CL and IL hemispheres between WT and AIF Tg mice (n=6/group). Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/s41419-020-2280-z), licensed under a CC-BY license.



Immunocytochemistry/Immunofluorescence: Mitofusin 1 Antibody (11E9-1H12) [NBP1-71775] - Antibody was tested in 3T3 cells with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and Dylight 550 (red).	
Immunohistochemistry-Paraffin: Mitofusin 1 Antibody (11E9-1H12) [NBP1-71775] - Analysis of Mitofusin-1 in mouse liver.	
Western Blot: Mitofusin 1 Antibody (11E9-1H12) [NBP1-71775] - Analysis of Mitofusin-1 expression in (1) MEF wild-type and (2) MEF Mitofusin-1-null whole cell lysates using NBP1-71775.	

Western Blot: Mitofusin 1 Antibody (11E9-1H12) - BSA Free [NBP1-71775] - Effect of AIF overexpression on mitochondrial fission & fusion in the cortex.a Representative immunoblots of mitochondrial fission proteins (P-DRP1 & FIS1) in the mitochondrial fraction from cortical tissue of P9 WT & AIF Tg mice under physiological conditions. Quantification of P-DRP1 & FIS1 did not show a significant difference between WT & AIF Tg mice (n = 6/group). b Representative immunoblots of mitochondrial fusion proteins (OPA1 & MFN1) in the mitochondrial fraction from cortical tissue of P9 WT & AIF Tg mice under physiological conditions. Quantification of OPA1 & MFN1 did not show any significant difference between WT & AIF Tg mice (n = 6/group). c Immunoblotting of P-DRP1and FIS1 in the mitochondrial fraction from the cortical tissue of the CL & IL hemispheres in WT & AIF Tg mice at 24 h after HI. Quantification of P-DRP1 & FIS1 did not show any significant differences in the CL & IL hemispheres between WT & AIF Tg mice (n = 6/group). d Immunoblotting of OPA1 & MFN1 in the mitochondrial fraction from cortical tissue of the CL & IL hemispheres at 24 h after HI in WT & AIF Tg mice. The expression of MFN1 was significantly decreased at 24 h post-HI both in WT & AIF Tg mice, while the short form (82 kDa) & cleavage band of OPA1 were significantly increased at 24 h post-HI in both the WT & AIF Tg mice. Quantification of OPA1 & MFN1 did not show any significant differences in the CL & IL hemispheres between WT & AIF Tg mice (n = 6/group). Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/32001673), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Jin Y, Kim T, Kim T Effect of Physical Exercise on Mitochondrial Dysfunction and Purkinje Cell Survival in the Cerebellum of 3xTg-AD Mice Journal of integrative neuroscience 2023-08-14 [PMID: 37735133] (WB)

Kawalec M, Wojtyniak P, Bielska E et al. Mitochondrial dynamics, elimination and biogenesis during post-ischemic recovery in ischemia-resistant and ischemia-vulnerable gerbil hippocampal regions Biochimica et biophysica acta. Molecular basis of disease 2022-12-22 [PMID: 36566873] (WB, Gerbil)

Details:
Dilution used in WB 1:1000

Wojtyniak P, Anna B, Karolina S et al. Mitofusin 2 Integrates Mitochondrial Network Remodelling, Mitophagy and the Renewal of Respiratory Chain Proteins in Neurons After Oxygen and Glucose Deprivation. Mol Neurobiol 2022-08-12 [PMID: 35962299]

Bhatia D, Capili A, Nakahira K et al. Conditional deletion of myeloid-specific mitofusin 2 but not mitofusin 1 promotes kidney fibrosis Kidney international 2022-02-25 [PMID: 35227692]

Peng G, Zheng H, Wu C et al. Intranasal administration of DHED protects against exhaustive exercise-induced brain injury in rats Brain research 2021-09-22 [PMID: 34562473] (IF/IHC, Rat)

Halder A, Yadav K, Aggarwal A et al. Activation of TNFR1 and TLR4 following oxygen glucose deprivation promotes mitochondrial fission in C6 astroglial cells Cell. Signal. 2020-07-18 [PMID: 32693013] (WB, FLOW, ICC/IF, Rat)

Zhang X, Zhao D, Wu W et al. Melatonin regulates mitochondrial dynamics and alleviates neuron damage in prion diseases Aging (Albany NY) 2020-06-10 [PMID: 32526704]

Li T, Li K, Zhang S et al. Overexpression of apoptosis inducing factor aggravates hypoxic-ischemic brain injury in neonatal mice Cell Death Dis 2020-01-30 [PMID: 32001673] (WB, Mouse)

Kim D, Cho J, Kang H Protective Effect of Exercise Training against the Progression of Alzheimer's Disease in 3xTg-AD Mice Behav. Brain Res. 2019-07-17 [PMID: 31325514] (WB, Mouse)

Bahat A, Goldman A, Zaltsman Y et al. MTCH2-mediated mitochondrial fusion drives exit from naive pluripotency in embryonic stem cells Nat Commun 2018-12-03 [PMID: 30510213] (WB, Mouse)

Nobis S, Goichon A, Achamrah N et al. Alterations of proteome, mitochondrial dynamic and autophagy in the hypothalamus during activity-based anorexia Sci Rep 2018-05-08 [PMID: 29740148] (WB, Mouse)

Montaigne D, Marechal X, Coisne A et al. Myocardial Contractile Dysfunction is Associated with Impaired Mitochondrial Function and Dynamics in Type 2 Diabetic but not in Obese Patients. Circulation. 2014-06-13 [PMID: 24928681] (WB, Human)

More publications at http://www.novusbio.com/NBP1-71775

Procedures

Western Blot Protocol Protocol Specific for NBP1-71775: MFN1 Antibody (11E9-1H12)
Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 40 ug of total protein per lane.
2. Transfer proteins to membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain according to standard Ponceau S procedure (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot.
5. Block the membrane using standard blocking buffer for at least 1 hour.
6. Wash the membrane in wash buffer three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate 1 hour at room temperature.
8. Wash the membrane in wash buffer three times for 10 minutes each.
9. Apply the diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturers instructions.

*Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%.

Immunocytochemistry/Immunofluorescence Protocol for Mitofusin-1 Antibody (NBP1-71775)

Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 30 minutes.
2. Remove the formalin and add ice cold methanol. Incubate for 5-10 minutes.
3. Remove methanol and add washing solution (i.e. PBS). Be sure to not let the specimen dry out. Wash three times for 10 minutes.
4. To block nonspecific antibody binding incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
5. Add primary antibody at appropriate dilution and incubate at room temperature from 2 hours to overnight at room temperature.
6. Remove primary antibody and replace with washing solution. Wash three times for 10 minutes.
7. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
8. Remove antibody and replace with wash solution, then wash for 10 minutes. Add Hoechst 33258 to wash solution at 1:25,0000 and incubate for 10 minutes. Wash a third time for 10 minutes.
9. Cells can be viewed directly after washing. The plates can also be stored in PBS containing Azide covered in Parafilm (TM). Cells can also be cover-slipped using Fluoromount, with appropriate sealing.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.

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Products Related to NBP1-71775

HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-43317-0.5mg	Mouse IgG2b Kappa Light Chain Isotype Control (MG2b)
NBP1-71775B	Mitofusin 1 Antibody (11E9-1H12) [Biotin]

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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