abcam

Product datasheet

# Anti-Mitofusin 2 antibody [6A8] ab56889

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## Overview

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| **Product name** | Anti-Mitofusin 2 antibody [6A8] |
| **Description** | Mouse monoclonal [6A8] to Mitofusin 2 |
| **Host species** | Mouse |
| **Tested applications** | **Suitable for:** WB, IHC-P, ICC/IF, Flow Cyt |
| **Species reactivity** | **Reacts with:** Mouse, Human |
| **Immunogen** | Recombinant fragment corresponding to Human Mitofusin 2 aa 661-757 (C terminal).<br>Sequence:<br>FKRQFVEHASEKLQLVISYTGSNCSHQVQQELSGTFAHLC<br>QQVDVTRENL<br>EQEIAAMNKKIEVLDSLQSKAKLLRNKAGWLDSELNMFTH<br>QYLQPSR<br><br>Database link: **O95140**<br>Run BLAST with Run BLAST with |
| **General notes** | This product was changed from ascites to tissue culture supernatant on 15 May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.<br><br>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.<br><br>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As |

## Properties

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| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| **Storage buffer** | pH: 7.40<br>Constituent: PBS |

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| **Purity** | Protein A purified |
| **Purification notes** | Purified by protein A from TCS. |
| **Clonality** | Monoclonal |
| **Clone number** | 6A8 |
| **Isotype** | IgG2a |
| **Light chain type** | kappa |

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab56889 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|---|---|---|
| **WB** | ★★★★★ (7) | Use at an assay dependent concentration. Predicted molecular weight: 86 kDa. |
| **IHC-P** | | Use at an assay dependent concentration. |
| **ICC/IF** | ★★★☆☆ (1) | Use at an assay dependent concentration. |
| **Flow Cyt** | | Use at an assay dependent concentration.<br>**ab170191** - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody. |

## Target

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| **Function** | Essential transmembrane GTPase, which mediates mitochondrial fusion. Fusion of mitochondria occurs in many cell types and constitutes an important step in mitochondria morphology, which is balanced between fusion and fission. MFN2 acts independently of the cytoskeleton. It therefore plays a central role in mitochondrial metabolism and may be associated with obesity and/or apoptosis processes. Overexpression induces the formation of mitochondrial networks. Plays an important role in the regulation of vascular smooth muscle cell proliferation. Involved in the clearance of damaged mitochondria via selective autophagy (mitophagy). Is required for PARK2 recruitment to dysfunctional mitochondria. Involved in the control of unfolded protein response (UPR) upon ER stress including activation of apoptosis and autophagy during ER stress. Acts as an upstream regulator of EIF2AK3 and suppresses EIF2AK3 activation under basal conditions. |
| **Tissue specificity** | Ubiquitous; expressed at low level. Highly expressed in heart and kidney. |
| **Involvement in disease** | Charcot-Marie-Tooth disease 2A2<br>Neuropathy, hereditary motor and sensory, 6A |
| **Sequence similarities** | Belongs to the TRAFAC class dynamin-like GTPase superfamily. Dynamin/Fzo/YdjA family. Mitofusin subfamily.<br>Contains 1 dynamin-type G (guanine nucleotide-binding) domain. |
| **Post-translational modifications** | Phosphorylated by PINK1.<br>Ubiquitinated by non-degradative ubiquitin by PARK2, promoting mitochondrial fusion; deubiquitination by USP30 inhibits mitochondrial fusion. |

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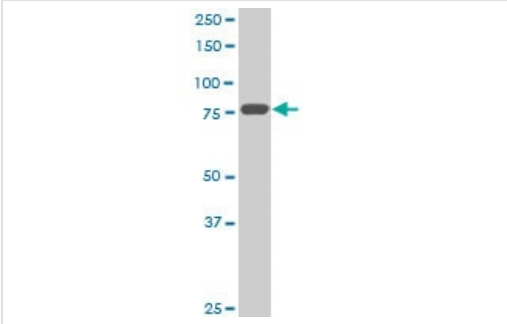
| **Cellular localization** | Mitochondrion outer membrane. Colocalizes with BAX during apoptosis. |

## Images

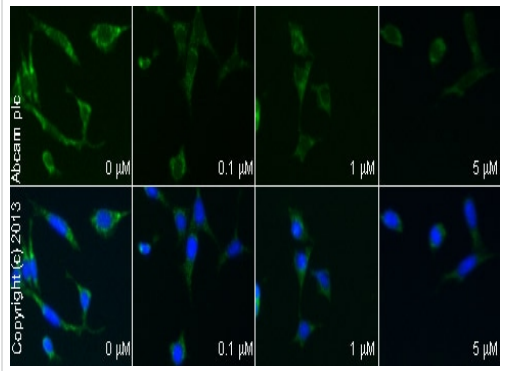



Western blot - Anti-Mitofusin 2 antibody [6A8] (ab56889)

Anti-Mitofusin 2 antibody [6A8] (ab56889) at 1 µg/ml + HeLa cell lysate at 25 µg

**Predicted band size:** 86 kDa

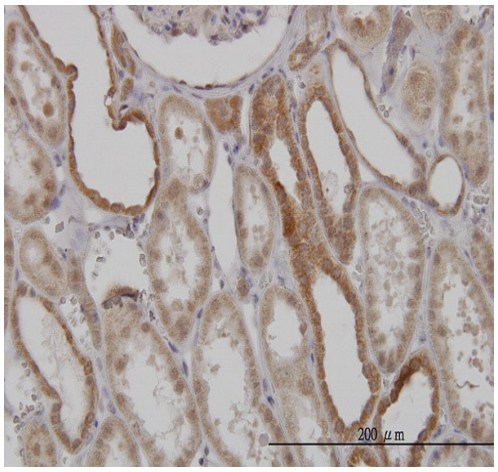
This image was generated using the ascites version of the product.




Immunocytochemistry/ Immunofluorescence - Anti-Mitofusin 2 antibody [6A8] (ab56889)

ab56889 staining mitofusin 2 in MEF1 cells treated with nigericin $Na^+$ salt (**ab120494**), by ICC/IF. Decrease in mitofusin 2 expression correlates with increased concentration of nigericin $Na^+$ salt, as described in literature.
The cells were incubated at 37°C for 3h in media containing different concentrations of **ab120494** (nigericin $Na^+$ salt) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab56889 (10 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight® 488 goat anti-mouse polyclonal antibody (**ab96879**) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.

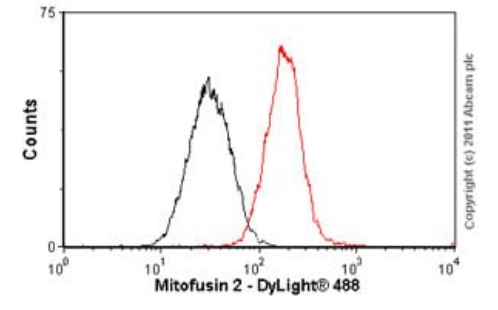
This image was generated using the ascites version of the product.




Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Mitofusin 2 antibody [6A8] (ab56889)

Mitofusin 2 antibody (ab56889) used in immunohistochemistry at 3ug/ml on formalin fixed and paraffin embedded human kidney.

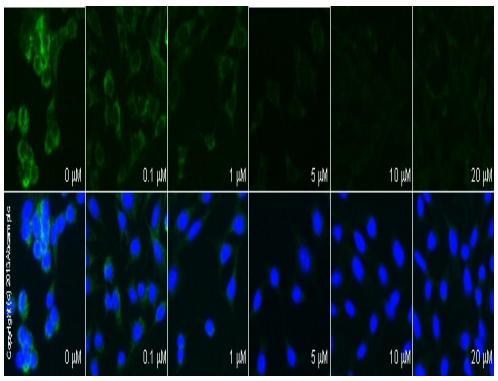
This image was generated using the ascites version of the product.




Flow Cytometry - Anti-Mitofusin 2 antibody [6A8] (ab56889)

Overlay histogram showing HEK293 cells stained with ab56889 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab56889, 1µg/1x$10^6$ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (**ab91361**, 1µg/1x$10^6$ cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HEK293 cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.

This image was generated using the ascites version of the product.




Immunocytochemistry/ Immunofluorescence - Anti-Mitofusin 2 antibody [6A8] (ab56889)

ab56889 staining mitofusin2 in MEF1 cells treated with valinomycin from Streptomyces fulvissimus (**ab120852**), by ICC/IF. Decrease in mitofusin2 expression with increased concentration of withaferin valinomycin from Streptomyces fulvissimus, as described in literature.

The cells were incubated at 37°C for 3h in media containing different concentrations of **ab120852** (valinomycin from Streptomyces fulvissimus) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab56889 (10 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and

0.1% tween. A DyLight® 488 goat anti-mouse polyclonal antibody (**ab96879**) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.

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