

Product datasheet

Anti-AIF antibody [7F7AB10] ab110327

★★★★★ 1 Abreviews 6 References 4 Images

Overview

| | |
|----------------------------|--|
| Product name | Anti-AIF antibody [7F7AB10] |
| Description | Mouse monoclonal [7F7AB10] to AIF |
| Host species | Mouse |
| Tested applications | Suitable for: IHC-P, Flow Cyt, WB, ICC/IF |
| Species reactivity | Reacts with: Human |
| Immunogen | Tissue, cells or virus. This information is considered to be commercially sensitive. |
| Positive control | Isolated mitochondria from Human heart; HeLa and HL60 cells. FFPE human heart tissue sections. |
| General notes | <p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com.</p> <p>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.</p> <p>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</p> <p>Product was previously marketed under the MitoSciences sub-brand.</p> |

Properties

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|-----------------------------|---|
| Form | Liquid |
| Storage instructions | Shipped at 4°C. Store at +4°C. Do Not Freeze. |
| Storage buffer | pH: 7.5 Preservative: 0.02% Sodium azide Constituent: HEPES buffered saline |
| Purity | IgG fraction |
| Purification notes | ab110327 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation. |
| Clonality | Monoclonal |

| | |
|------------------|---------|
| Clone number | 7F7AB10 |
| Isotype | IgG1 |
| Light chain type | kappa |

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab110327 in the following tested applications.

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

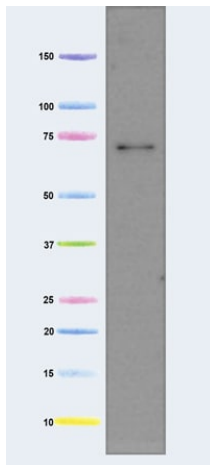
| Application | Abreviews | Notes |
|-------------|-----------|--|
| IHC-P | | Use a concentration of 10 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. |
| Flow Cyt | | Use a concentration of 1 µg/ml. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |
| WB | ★★★★★ (1) | Use a concentration of 2 - 5 µg/ml. Predicted molecular weight: 67 kDa. |
| ICC/IF | | Use a concentration of 5 - 10 µg/ml. For 2 hours. Paraformaldehyde fixed (4%, 20 minutes) and Triton X-100 permeabilized (0.1%, 15 minutes). |

Target

| | |
|---|---|
| Function | Probable oxidoreductase that has a dual role in controlling cellular life and death; during apoptosis, it is translocated from the mitochondria to the nucleus to function as a proapoptotic factor in a caspase-independent pathway, while in normal mitochondria, it functions as an antiapoptotic factor via its oxidoreductase activity. The soluble form (AIFsol) found in the nucleus induces 'parthanatos' i.e., caspase-independent fragmentation of chromosomal DNA. Interacts with EIF3G, and thereby inhibits the EIF3 machinery and protein synthesis, and activates caspase-7 to amplify apoptosis. Plays a critical role in caspase-independent, pyknotic cell death in hydrogen peroxide-exposed cells. Binds to DNA in a sequence-independent manner. |
| Involvement in disease | Defects in AIFM1 are the cause of combined oxidative phosphorylation deficiency type 6 (COXPD6) [MIM:300816]. It is a mitochondrial disease resulting in a neurodegenerative disorder characterized by psychomotor delay, hypotonia, areflexia, muscle weakness and wasting. |
| Sequence similarities | Belongs to the FAD-dependent oxidoreductase family. |
| Post-translational modifications | Under normal conditions, a 54-residue N-terminal segment is first proteolytically removed during or just after translocation into the mitochondrial intermembrane space (IMS) by the mitochondrial processing peptidase (MPP) to form the inner-membrane-anchored mature form (AIFmit). During apoptosis, it is further proteolytically processed at amino-acid position 101 leading to the generation of the mature form, which is confined to the mitochondrial IMS in a soluble form (AIFsol). AIFsol is released to the cytoplasm in response to specific death signals, and translocated to the nucleus, where it induces nuclear apoptosis in a caspase-independent manner. |
| Cellular localization | Mitochondrion intermembrane space. Mitochondrion inner membrane. Cytoplasm. Nucleus. |

Cytoplasm > perinuclear region. Proteolytic cleavage during or just after translocation into the mitochondrial intermembrane space (IMS) results in the formation of an inner-membrane-anchored mature form (AIFmit). During apoptosis, further proteolytic processing leads to a mature form, which is confined to the mitochondrial IMS in a soluble form (AIFsol). AIFsol is released to the cytoplasm in response to specific death signals, and translocated to the nucleus, where it induces nuclear apoptosis. Colocalizes with EIF3G in the nucleus and perinuclear region.

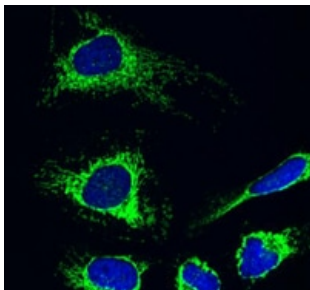
Images



Western blot - Anti-AIF antibody [7F7AB10]
(ab110327)

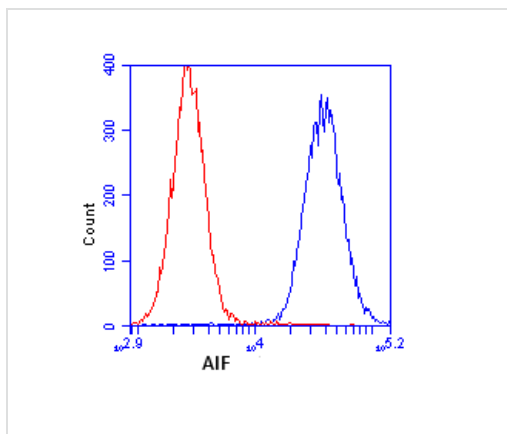
Anti-AIF antibody [7F7AB10] (ab110327) at 5 µg/ml + Isolated mitochondria from Human heart at 5 µg

Predicted band size: 67 kDa



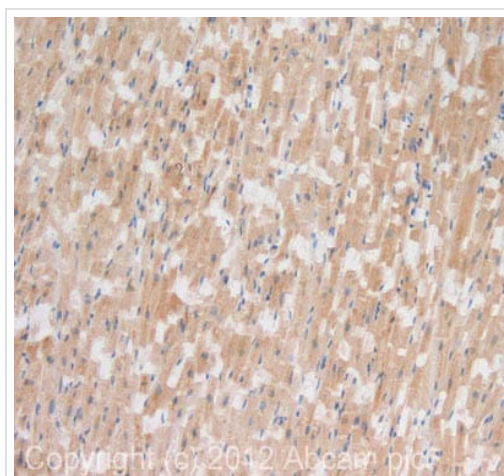
Immunocytochemistry/ Immunofluorescence - Anti-AIF antibody [7F7AB10] (ab110327)

Immunocytochemistry analysis using ab110327 at 5µg/ml staining AIF in HeLa cells (4% paraformaldehyde fixed and Triton X-100 permeabilized). The secondary antibody was (green) Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1 hour. DAPI was used to stain the cell nuclei (blue). Target protein locates mainly in mitochondria.



Flow Cytometry - Anti-AIF antibody [7F7AB10]
(ab110327)

Flow cytometric analysis using ab110327 at 1µg/ml staining AIF in HL60 cells (blue). Isotype control antibody (red).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AIF antibody [7F7AB10]
(ab110327)

IHC image of AIF staining in human heart formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab110327, 10µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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