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Anti-AIF Antibody

Mouse Monoclonal Antibody
Catalog # AP53426

Product Information

Application	WB, IF
Primary Accession	O95831
Other Accession	NM_004208
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a
Immunogen	Purified recombinant human AIF protein fragments expressed in E.coli.
Purification	Affinity purified
Calculated MW	66901

Additional Information

Gene ID	9131
Other Names	AIFM1; AIFM1_HUMAN; Apoptosis inducing factor 1, mitochondrial; Apoptosis inducing factor; Apoptosis inducing factor, mitochondrion associated, 1; Apoptosis-inducing factor 1; CMTX4; COWCK; COXPD6; Harlequin; Hq; mAIF; MGC111425; MGC5706; mitochondrial; Neuropathy, axonal motor-sensory, with deafness and mental retardation; neuropathy, axonal, motor-sensory with deafness and mental retardation (Cowchock syndrome); PDCD 8; PDCD8; Programmed cell death 8 (apoptosis inducing factor); Programmed cell death 8; Programmed cell death 8 isoform 1; Programmed cell death 8 isoform 2; Programmed cell death 8 isoform 3; Programmed cell death protein 8; Programmed cell death protein 8 mitochondrial; Programmed cell death protein 8 mitochondrial precursor; Striatal apoptosis inducing factor.
Dilution	WB~~1:1000 IF~~1:50~200
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	AIFM1 (HGNC:8768)
Synonyms	AIF, PDCD8

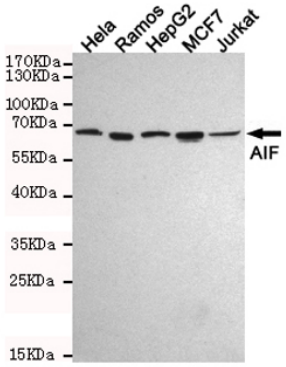
Function	Functions both as NADH oxidoreductase and as regulator of apoptosis (PubMed:17094969, PubMed:20362274, PubMed:23217327, PubMed:33168626). In response to apoptotic stimuli, it is released from the mitochondrion intermembrane space into the cytosol and to the nucleus, where it functions as a proapoptotic factor in a caspase- independent pathway (PubMed:20362274). Release into the cytoplasm is mediated upon binding to poly-ADP-ribose chains (By similarity). The soluble form (AIFsol) found in the nucleus induces 'parthanatos' i.e. caspase-independent fragmentation of chromosomal DNA (PubMed:20362274). Binds to DNA in a sequence-independent manner (PubMed:27178839). Interacts with EIF3G, and thereby inhibits the EIF3 machinery and protein synthesis, and activates caspase-7 to amplify apoptosis (PubMed:17094969). Plays a critical role in caspase-independent, pyknotic cell death in hydrogen peroxide-exposed cells (PubMed:19418225). In contrast, participates in normal mitochondrial metabolism. Plays an important role in the regulation of respiratory chain biogenesis by interacting with CHCHD4 and controlling CHCHD4 mitochondrial import (PubMed:26004228).
Cellular Location	Mitochondrion intermembrane space. Mitochondrion inner membrane. Cytoplasm. Nucleus. Cytoplasm, perinuclear region. Note=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 (PubMed:15775970). Release into the cytoplasm is mediated upon binding to poly-ADP-ribose chains (By similarity) Translocation into the nucleus is promoted by interaction with (auto- poly-ADP-ribosylated) processed form of PARP1 (PubMed:33168626) Colocalizes with EIF3G in the nucleus and perinuclear region (PubMed:17094969). {ECO:0000250|UniProtKB:Q9Z0X1, ECO:0000269|PubMed:15775970, ECO:0000269|PubMed:17094969, ECO:0000269|PubMed:33168626} [Isoform 4]: Mitochondrion. Cytoplasm, cytosol. Note=In pro-apoptotic conditions, is released from mitochondria to cytosol in a calpain/cathepsin-dependent manner.
Tissue Location	Expressed in all tested tissues (PubMed:16644725). Detected in muscle and skin fibroblasts (at protein level) (PubMed:23217327). Expressed in osteoblasts (at protein level) (PubMed:28842795). [Isoform 4]: Expressed in all tested tissues except brain.

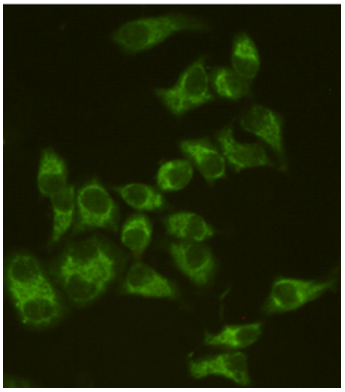
Background

Functions both as NADH oxidoreductase and as regulator of apoptosis. In response to apoptotic stimuli, it is released from the mitochondrion intermembrane space into the cytosol and to the nucleus, where it functions as a proapoptotic factor in a caspase-

Images

Western blot analysis of extracts from Hela,Ramos,HepG2,MCF7 and Jurkat cell lysates using AIF mouse mAb (1:1000 diluted).Predicted band size:67KDa.Observed band size:67KDa.





Immunocytochemistry staining of HeLa cells fixed with 4% Paraformaldehyde and using anti-AIF mouse mAb (dilution 1:200).