10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

AIFM1 / AIF / PDCD8 Antibody
Rabbit Polyclonal Antibody
Catalog # ALS15222

Specification

AIFM1 / AIF / PDCD8 Antibody - Product Information

Application	**IHC**
Primary Accession	O95831
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**67kDa KDa**

AIFM1 / AIF / PDCD8 Antibody - Additional Information

Gene ID 9131

Other Names
Apoptosis-inducing factor 1, mitochondrial, 1.1.1.-, Programmed cell death protein 8, AIFM1, AIF, PDCD8

Reconstitution & Storage
Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions
AIFM1 / AIF / PDCD8 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

AIFM1 / AIF / PDCD8 Antibody - Protein Information

Name AIFM1 (HGNC:8768)

Synonyms AIF, PDCD8

Function
Functions both as NADH oxidoreductase and as regulator of apoptosis (PubMed:20362274, PubMed:23217327, PubMed:17094969, 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:<a href="http://www.uniprot.org/citations/27178839"

target="_blank">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.

Volume
50 µl

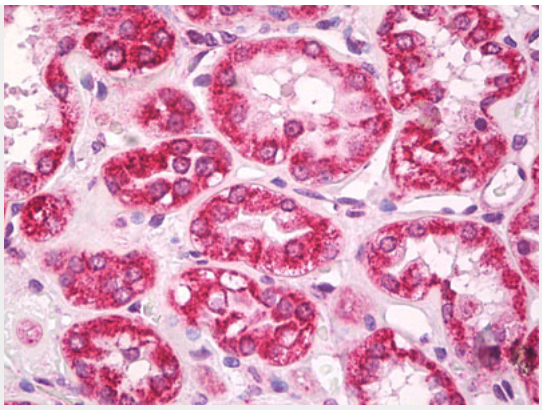
AIFM1 / AIF / PDCD8 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

AIFM1 / AIF / PDCD8 Antibody - Images

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



Anti-AIFM1 / AIF antibody IHC of human kidney, tubules.

AIFM1 / AIF / PDCD8 Antibody - 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-independent pathway. In contrast, functions as an antiapoptotic factor in normal mitochondria via its NADH 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 casapse-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.

AIFM1 / AIF / PDCD8 Antibody - References

Susin S.A.,et al.Nature 397:441-446(1999).
Delettre C.,et al.J. Biol. Chem. 281:6413-6427(2006).
Delettre C.,et al.J. Biol. Chem. 281:18507-18518(2006).
Rhodes S.,et al.Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).