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

KD-Validated Anti-AIFM1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1299

Specification

KD-Validated Anti-AIFM1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	O95831
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 67 kDa; observed, 67 kDa KDa**
Gene Name	**AIFM1**
Aliases	**AIFM1; Apoptosis Inducing Factor Mitochondria Associated 1; AIF; CMTX4; DFNX5; PDCD8; Apoptosis-Inducing Factor, Mitochondrion-Associated, 1; Programmed Cell Death 8 (Apoptosis-Inducing Factor); Apoptosis-Inducing Factor 1, Mitochondrial; Auditory Neuropathy, X-Linked Recessive 1; AUNX1; NAMSD; Neuropathy,Axonal, Motor-Sensory With Deafness And Mental Retardation (Cowchock Syndrome); Apoptosis Inducing Factor, Mitochondria Associated 1; Striatal Apoptosis-Inducing Factor; Testicular Secretory Protein Li 4; Programmed Cell Death Protein 8; EC 1.6.99.-; COXPD6; SEMDHL; CMT2D; COWCK; NADMR**
Immunogen	**A synthesized peptide derived from human AIF**

KD-Validated Anti-AIFM1 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**9131**

Other Names
Apoptosis-inducing factor 1, mitochondrial, 1.6.99.-, Programmed cell death protein 8, AIFM1 (HGNC:8768), AIF, PDCD8

KD-Validated Anti-AIFM1 Rabbit Monoclonal Antibody - Protein Information

Name AIFM1 (HGNC:8768)

Synonyms AIF, PDCD8

Function
Functions both as NADH oxidoreductase and as regulator of apoptosis (PubMed:<a

href="http://www.uniprot.org/citations/17094969" target="_blank">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.

KD-Validated Anti-AIFM1 Rabbit Monoclonal 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

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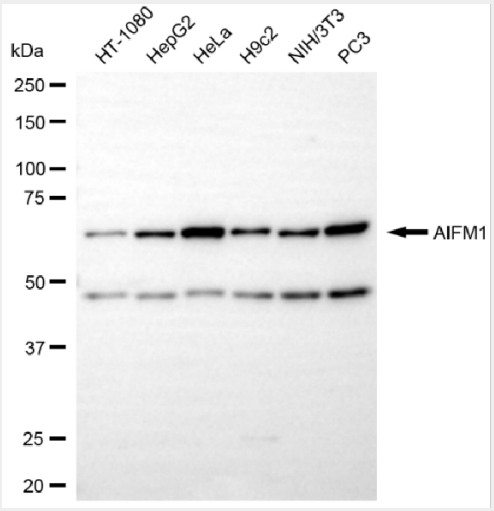
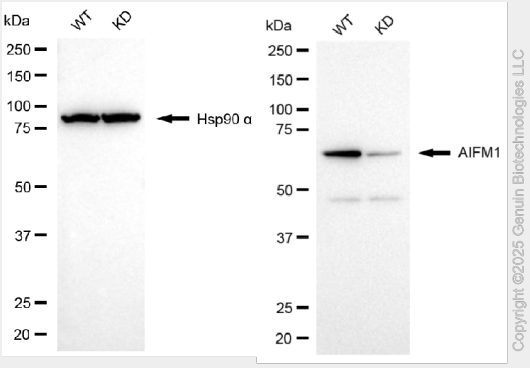
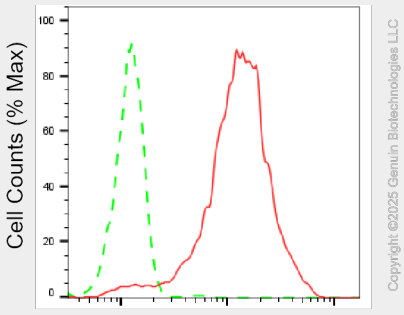
KD-Validated Anti-AIFM1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-AIFM1 antibody (Cat#AGI1299). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-AIFM1 antibody (Cat#AGI1299, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-AIFM1 antibody (Cat#AGI1299). AIFM1 expression in wild-type (WT) and AIFM1 knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-AIFM1 antibody (Cat#AGI1299, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



AIFM1-Alexa Fluor® 647

Flow cytometric analysis of AIFM1 expression in HepG2 cells using anti-AIFM1 antibody (Cat#AGI1299, 1:2,000). Green, isotype control; red, AIFM1.

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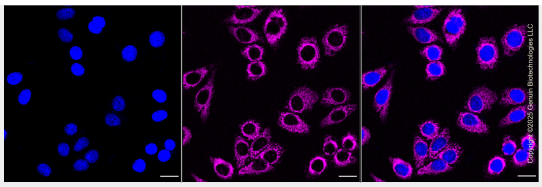

Immunocytochemical staining of HepG2 cells with anti-AIFM1 antibody (Cat#AGI1299, 1:1,000). Nuclei were stained blue with DAPI; AIFM1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: High. Scale bar, 20 µm.