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

Product Information

Application	WB, FC, ICC
Primary Accession	O95831
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	25GB2810
Calculated MW	66901
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

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

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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.