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AIFM1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP8910a

Specification

AIFM1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession O95831

AIFM1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 9131

Other Names
Apoptosis-inducing factor 1, mitochondrial, 111-, Programmed cell death protein 8, AIFM1, AIF, PDCD8

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8910a was selected from the N-term region of human AIFM1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

AIFM1 Antibody (N-term) Blocking Peptide - Protein Information

Name AIFM1 (HGNC:8768)

AIFM1 Antibody (N-term) Blocking Peptide - Background

AIFM1 is a flavoprotein essential for nuclear disassembly in apoptotic cells that is found in the mitochondrial intermembrane space in healthy cells. Induction of apoptosis results in the translocation of this protein to the nucleus where it effects chromosome condensation and fragmentation. In addition, this protein induces mitochondria to release the apoptogenic proteins cytochrome c and caspase-9.

AIFM1 Antibody (N-term) Blocking Peptide - References

Daugas,E., et.al., FASEB J. 14 (5), 729-739 (2000)Schulthess,F.T., et.al., PLoS ONE 4 (2), E4394 (2009)

Synonyms AIF, PDCD8

Function
Functions both as NADH oxidoreductase and as regulator of apoptosis (PubMed:20362274, PubMed:23217327, PubMed:17094969). 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. The soluble form (AIFsol) found in the nucleus induces 'parthanatos' i.e. caspase-independent fragmentation of chromosomal DNA (By similarity). 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). Colocalizes with EIF3G in the nucleus and perinuclear region (PubMed:17094969) [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.

AIFM1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides