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Datasheet for 200-401-985

AIF Antibody

Overview

Description:	Anti-Apoptosis Inducing Factor (AIF) (RABBIT) Antibody - 200-401-985
Item No.:	200-401-985
Size:	100 µg
Applications:	ELISA, IHC, WB
Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit

Product Details

Background:	Apoptosis is characterized by several morphological nuclear changes including chromatin condensation and nuclear fragmentation. These changes are triggered by the activation of members of the caspase family, caspase activated DNase, and several novel proteins. A novel gene, the product of which causes chromatin condensation and DNA fragmentation, was recently identified, cloned, and designated apoptosis inducing factor (AIF). Like cytochrome c and caspase-9, which are critical molecules in apoptosis, AIF localizes to mitochondria. AIF translocates to the nucleus when apoptosis is induced and induces mitochondria to release the apoptogenic proteins cytochrome c and caspase-9. AIF induces chromatin condensation and large scale DNA fragmentation, which are the hallmarks of apoptosis. These effects occur in both isolated nuclei and in the nuclei of live cells treated by microinjection and with apoptosis stimuli. AIF is highly conserved between human and mouse and is widely expressed. Anti-AIF antibody is ideal for investigators involved in DNA Damage and Repair and Chromatin research.
Synonyms:	Harlequin antibody, Hq antibody, mAIF antibody, MGC111425 antibody, MGC5706 antibody, PDCD 8 antibody, AIF, PDCD8
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	AIFM1
Reactivity:	Human, Mouse, Rat

Immunogen Type:	Conjugated Peptide
Immunogen:	AIF Antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids at an internal region of human AIF protein.
Purity/Specificity:	Anti-AIF Antibody is directed against human AIF protein. The product is affinity chromatography purified via peptide column. A BLAST analysis was used to suggest cross-reactivity with AIF protein from mouse and rat based on 100% homology with the immunizing sequence. Reactivity against homologues from other sources is not known.
Relevant Links:	• UniProtKB - O95831 • NCBI - NP_001124318.2 • GeneID - 9131

Application Details

Tested Applications:	ELISA, IHC, WB
Application Note:	Anti-AIF Antibody has been tested for use in ELISA, western blotting and immunohistochemistry. K562 cell lysate, as well as rat and mouse heart tissue lysates, can be used as positive controls in western blotting, and a band at approximately 67 kDa is expected. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
IHC:	10 µg/ml
WB:	0.25-1 µg/ml

Formulation

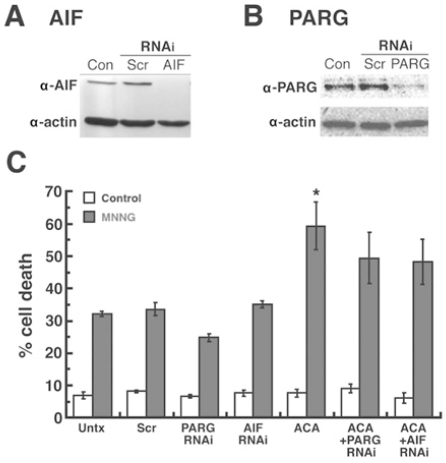
Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.02% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

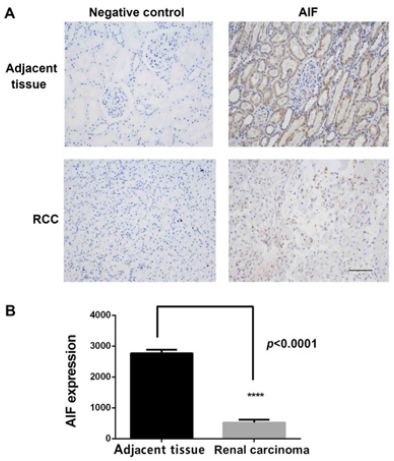
Shipping Condition:	Dry Ice

Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

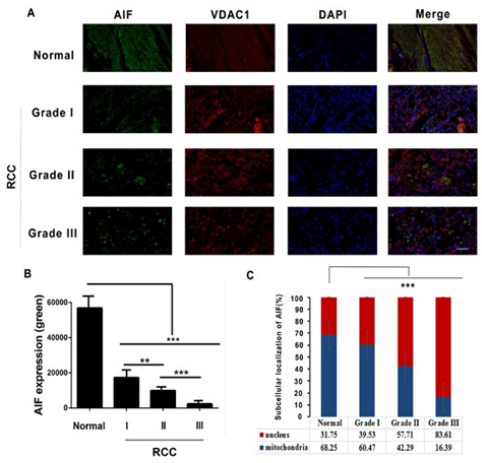
Images



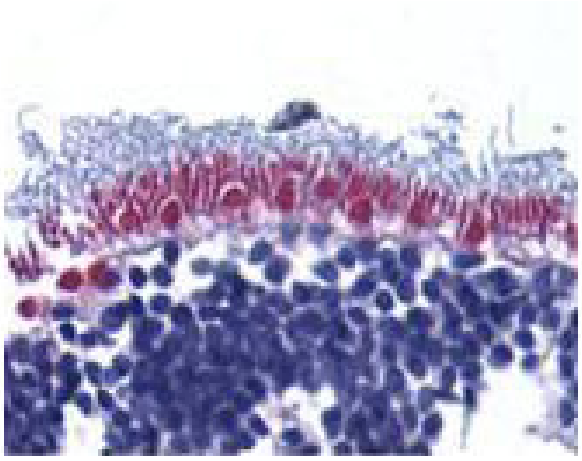
Western Blot
Analysis of poly(ADP-ribose)-mediated caspase-independent cell death in breast adenocarcinoma cells after TRPM2 inhibition and chemotherapeutic treatments. Immunoblot detection of (A) apoptosis-inducing factor (AIF) and (B) poly (ADP-ribose) glycohydrolase (PARG) in MDA-MB-231 breast adenocarcinoma cells after RNAi silencing. Loading controls for immunoblots were provided by the immunodetection of β-actin. Con, untransfected cells; Scr, cells transfected with negative control scrambled siRNA oligos. (C) Quantification of cell death by flow cytometry was performed in MDA-MB-231 cells after RNAi knockdown of AIF or PARG, pretreatment with 20 µM ACA for 30 min and treatment with 100 µM MNNG. *p<0.05, one-way ANOVA and unpaired Student's t-test; error bars represent the SEM. Fig 5. PMID: 26178079



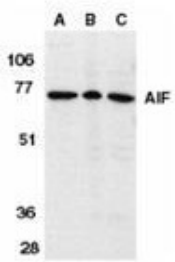
Immunohistochemistry
AIF expression in RCC and adjacent normal tissues. (A) IHC staining of AIF expression in RCC and adjacent tissues. Strong staining of AIF was observed in normal kidney sections compared with weak staining in the adjacent tissues. (B) Quantification of AIF staining in IHC images of RCC and adjacent normal tissues. AIF expression was significantly decreased in RCC tissues. ****P<0.0001, n=96. Scale bar, 200 µm. AIF, apoptosis-inducing factor; RCC, renal cell carcinoma; IHC, immunohistochemistry. Fig 1.
PMID: 31452759



Immunofluorescence Microscopy
Subcellular localization of AIF in RCC cells. (A) Immunofluorescence staining of RCC grades I, II and III and adjacent normal tissue with antibodies against AIF (green), VDAC1 (red; mitochondrial marker) and with DAPI (blue; nuclear stain). (B) Quantification of AIF expression in RCC and adjacent normal tissue. (C) Quantification of AIF staining in mitochondrial and nuclear subcellular compartments in RCC grades I, II and III and adjacent normal tissue. **P<0.01, ***P<0.001 (n=6). Scale bar, 500 µm. AIF, apoptosis-inducing factor; RCC, renal cell carcinoma; VDAC1, voltage-dependent anon-selective channel 1. Fig 4.
PMID: 31452759



Immunohistochemistry
Immunohistochemistry of anti-AIF. Tissue: human retina. Antibody: AIF antibody at 10 µg/ml.



Western Blot
Western blot analysis of AIF in K562 cell lysate (A), rat heart (B), and mouse heart (C) tissue lysates with AIF antibody at 1 µg/ml.

References

- Wang Z et al. Decreased expression of apoptosis□inducing factor in renal cell carcinoma is associated with poor prognosis and reduced postoperative survival. *Oncol Lett.* (2019)
- Koh et al. Enhanced cytotoxicity in triple-negative and estrogen receptor□positive breast adenocarcinoma cells due to inhibition of the transient receptor potential melastatin-2 channel. *Oncology Reports* (2015)

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