

20-1113: Polyclonal antibody to AIF

Clonality :	Polyclonal
Application :	WB,IHC,IP
Reactivity :	Cow,Dog,Human,Mouse,Rat
Gene :	AIFM1
Gene ID :	9131
Uniprot ID :	O95831
Format :	Sera
Alternative Name :	AIFM1,AIF,PDCD8
Isotype :	Rabbit IgG
Immunogen Information :	A synthetic peptide of human AIF (amino acids 151-169 RARDPGARVLIVSEDPELP) was used as immunogen for this antibody

Description

AIF (apoptosis-inducing factor) was initially discovered as a protein involved in caspase-independent cell death. It is now known that AIF has both vital and lethal functions (reviewed in Modjtahedi et al, 2006). In healthy cells, AIF is a flavoprotein present in the mitochondria where it has vital roles in cellular redox metabolism and mitochondrial bioenergetics. In many models of apoptosis, AIF is released from the mitochondria during mitochondrial outer membrane permeabilization along with other mitochondrial proteins. Upon release, AIF translocates first to the cytosol and then to the nucleus where it induces chromatin condensation and DNA degradation. Although several lines of evidence suggest that AIF is a main mediator of caspase-independent cell death, the mechanisms regulating AIF pro-apoptotic function remain to be fully elucidated and may depend on the cell type and type of apoptotic stimuli. Human AIF is transcribed from a nuclear gene located on the X chromosome and translated in the cytoplasm to a precursor protein of 613 amino acids (aa) which corresponds to ~67 kDa. The precursor protein is imported into the mitochondria by mitochondrial localization sequences located within the N-terminal prodomain of AIF. Once inside the mitochondria, the prodomain is cleaved giving rise to a mature AIF form of ~57 kDa. AIF isoforms generated from a single AIF gene have been identified, including AIF short isoform 2 (324 aa protein; GenBank no. AAY84739.1) and AIF short isoform 3 (237 aa protein; GenBank no. AAY84741.1 (reviewed in Deltre et al, 2006). The generation of multiple isoforms from a common gene is an evolutionary mechanism that increases protein diversity in eukaryotes. Regulating gene expression through the production of multiple isoforms from a single gene is thought to play a major role in the control of apoptosis and other forms of programmed cell death. This antibody recognizes AIF and AIF isoforms containing the peptide immunogen sequence, RARDPGARVLIVSEDPELP.

Product Info

Amount :	50 µl
Content :	50 µl sera
Storage condition :	Store the antibody at 4°C, stable for 6 months. For long-term storage, store at -20°C. Avoid repeated freeze and thaw cycles.

Application Note

WB: 1:1000-1:2000, IHC (paraffin): 1:1000-1:5000, IHC (frozen): Users should optimize, IP: 1:50-1:200

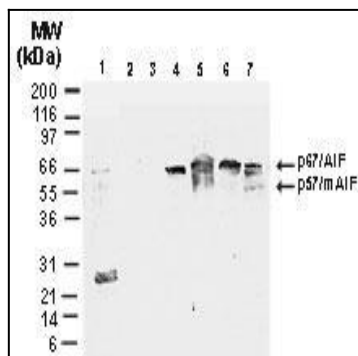


Fig:1 Western blot analysis of AIF in human colon using 20-1113 at 1:2000. Lane 1, normal colon. Lanes 2-7, colon carcinoma tissue lysates from 6 different patients. mAIF, thought to represent mitochondrial AIF.

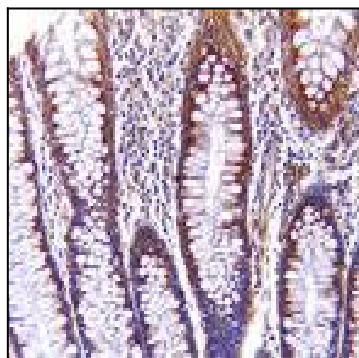


Fig:2 Immunohistochemical staining of AIF in formalin-fixed, paraffin-embedded normal human colon using 20-1113 at 1:2000. Hematoxylin-eosin counterstain. In this example, AIF expression is predominant in the upper part of the crypt.