

Product Specification Sheet

**Apoptosis Inducing Factor (AIF) Antibodies**

Cat. # AIF11-P	Mouse AIF Control Peptide	<b>SIZE:</b> 100 ug
Cat. # AIF11-S	Rabbit Anti-Mouse AIF antiserum	<b>SIZE:</b> 100 ul
Cat. # AIF11-A	Rabbit Anti-Mouse AIF IgG (aff pure)	<b>SIZE:</b> 100 ug

Mitochondria play a pivotal role in the regulation of programmed cell death or apoptosis. Apoptosis is driven by two classes of specialized proteases known as caspases (Cysteine aspartase). The initiator caspases can be activated by self-cleavage. The effector caspases are then activated in an amplification cascade. Several key participants are released from the mitochondria that regulate apoptosis. The first such factor (Cytochrome-C) to be described binds to a cytoplasmic scaffolding protein called Apaf-1. Binding of the mitochondria factor allows Apaf-1 to form a ternary complex with, and activate, the initiator pro-caspase-9. Active caspase-9 then turns on downstream effector caspases, initiating apoptosis. Another mitochondrial-derived factor, termed Apoptosis inducing factor (AIF), has been identified. AIF is sufficient to induce apoptosis of isolated nuclei. AIF (mouse 612 aa, rat 613 aa, and human 612 aa, chromosome Xq25-q26) is a flavoprotein of ~57 kDa. It normally resides in the mitochondrial but translocates to the nucleus. AIF induces mitochondrial to release Cytochrome-c and caspase-9. It has been found in liver and many other tissues.

Mouse and human AIF are 92% homologous. The C-terminus of AIF shares significant homology with several bacterial ferredoxins, and the N-terminus has two mitochondrial localization signal. The N-terminal 1-101 AA are cleaved to produce mature AIF.

**Source of Antigen and Antibodies**

<b>Antigen</b>	20-aa peptide from <b>mouse AIF (1); Designation (AIF11-P, control peptide)</b> Epitope location ~ N Terminus
<b>Ab Host/type</b>	Rabbit, Polyclonal Unpurified antiserum (cat # AIF11-S) and aff pure IgG (cat # AIF11-A)
<b>2-AB</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available)
<b>-ve control</b>	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**Antiserum (unpurified)**  
100ul solution lyophilized powder  
Supplied in Buffer: 0.05% azide  
**Reconstitute powder in 100 ul PBS**

**Affinity pure IgG**  
100 ug/100ul solution lyophilized powder  
Supplied in **Buffer:** PBS+0.1% BSA  
**Reconstitute powder in PBS at 1mg/ml**

**Control/blocking peptide**

100 ug/100 ul solution lyophilized powder  
Supplied in Buffer: PBS pH 7.5,

**Reconstitute powder in PBS at 1 mg/ml.**

**Storage**

**Short-term:** unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

**Long-term:** at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20°C or below.

**Shipping:** 4°C for solutions and room temp for powder

**Recommended Usage**

**Western Blotting** (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique).

**ELISA:** Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

**Histochemistry & Immunofluorescence:** Not tested. We recommend the use of affinity purified antibody at 1-20 ug/ml in paraformaldehyde fixed sections of tissues (1).

**Specificity & Cross-reactivity**

Mouse AIF11-P control peptide is 95% conserved in rat, and 61% in human AIF. No significant sequence homology is detected with other ferredoxins. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity.

**General References:** (1) Susin SA et al (1999) Nature 397, 441-445; Ohsakaya S et al (2000) Gene Acc. # AB041723; Joza N et al (2001) Nature 410, 549-554; Yu S-W et al (2002) Science 297, 259-263

\*This product is for In vitro research use only.

**Related material available from ADI**

Antibodies AIF, Apaf-1, Cytochrome-C, Caspases, IAPs, Survivin, EPR-1, CARD, and other Apoptosis related proteins

Pre-made BrainBlot (study distribution of proteins in 12-distinct regions of rat/mouse brain)

AIF11-S-A-P

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**India Contact:**

**Life Technologies (India) Pvt. Ltd.**

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)