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| Cat. # AVEN11-P | Human Aven Control Peptide # 1 | SIZE: 100 ug |
| Cat. # AVEN11-S | Rabbit Anti-Human Aven antiserum # 1 | SIZE: 100 ul |
| Cat. # AVEN11-A | Rabbit Anti-Human Aven IgG # 1 (aff pure) | SIZE: 100 ug |

Apoptosis or programmed cell death is a fundamental cellular process that is essential for normal tissue development and abnormal growth such as cancer, neurodegeneration, autoimmune diseases, and angiogenesis, etc. 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. Mitochondria play a pivotal role in the regulation of apoptosis. Several key factors 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. Several key proteins regulate apoptosis by suppressing (e.g., Bcl-2 and related family of proteins) or promoting (e.g., AIF etc) apoptosis pathway. Bcl-xl is a known anti-apoptotic protein that acts at a late post-mitochondrial step. A new intracellular membrane protein, **Aven** (from *Aventine*, a Roman stronghold) has now been shown to bind both Bcl-xl and Apaf-1. Aven (human 362 aa) is a conserved protein that has broad tissue distribution with prominent expression in heart, skeletal muscle, kidney, liver, pancreas, testis, and several established cell lines (HeLa, IB4, and Raji). Aven interferes with the ability of Apaf-1 to self-associate, and subsequent inhibition of Apaf-1 mediated activation of caspases.

Source of Antigen and Antibodies

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| Antigen | 18-aa peptide from human Aven (1); Designation (AVEN11-P, control peptide) . Epitope location ~ C-terminus |
| Ab Host/type | Rabbit, Polyclonal Unpurified antiserum (cat # AVEN11-S) and aff pure IgG (cat # AVEN11-A) purified over the antigen column |
| 2ab | Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available) |
| -ve control | # 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). The predicted size of Aven is ~39 kDa. However, it migrates as 55 kDa in HeLa cell (1).

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 5-20 ug/ml.

Specificity & Cross-reactivity

Human AVEN11-P control peptide has no significant sequence homology with other proteins. 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 (see detailed protocol at: the web site).

General References:

Chau BN et al (2000) Mol. Cell. 6, 31-40; Susin SA et al (1999) Nature 397, 441-445.

*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, etc

Recycle Immuno blots in Just 5-10 min. (use the same blot for various IAPs)

AVEN11-S-A-P

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