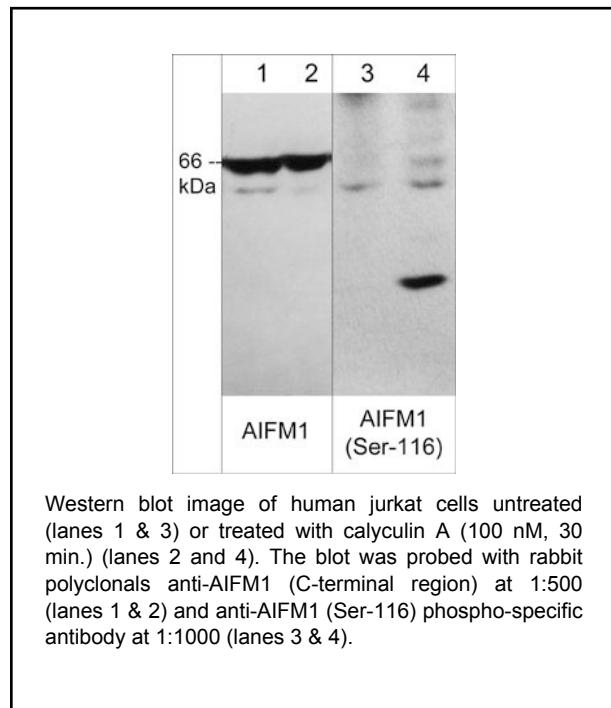


Background

Apoptosis-inducing factor (AIFM1, AIF, PDCD8) is a ubiquitously expressed flavoprotein that plays a critical role in caspase-independent apoptosis. AIFM1 is expressed as a 66 kDa precursor protein before being N-terminally cleaved to 62 kDa and localized to the mitochondrial intermembrane space. In response to apoptotic stimuli, AIFM1 is released from the mitochondrial intermembrane as a 57 kDa fragment that can translocate to the nucleus. Treatment of isolated nuclei with recombinant AIFM1 leads to early apoptotic events, such as chromatin condensation and large-scale DNA fragmentation. Studies of AIFM1 knockout mice have shown that the apoptotic activity of AIFM1 is cell type and stimuli-dependent. AIFM1 has been implicated in oxeiptosis, a non-inflammatory, caspase independent cell death pathway caused by oxidative stress. During oxeiptosis, increased reactive oxygen species cause the release of the phosphatase PGAM5 from KEAP1 leading to dephosphorylation of AIFM1 (Ser-116) and subsequent cell death. Thus, AIFM1 phosphorylation status at Ser-116 may be an important marker for cell death involving oxeiptosis.

Background References

Daugas, E. et al. (2000) FEBS Lett. 476:118.
 Lipton, S.A. and Bossy-Wetzel, E. (2002) Cell 111:147.
 Delavallee, L. et al. (2011) IUBMB Life. 63(4):221.



Applications

WB 1:1000
 ELISA 1:2000

Species Reactivity

Hu

Specificity

The antibody was cross adsorbed to unphosphorylated AIFM1 (Ser-116) peptide before affinity purification using phospho-AIFM1 (Ser-116) peptide. This antibody detects a triplet at 66, 62, and 57 kDa* protein on SDS-PAGE immunoblots of human Jurkat cells treated with calyculin A. This reactivity is not observed after lambda phosphatase treatment to dephosphorylated AIFM1.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

End user should determine optimal dilution for their particular applications and experiments.
 Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Immunogen

Uniprot ID: O95831

Phospho-AIFM1 (Ser-116) synthetic peptide (coupled to carrier) corresponding to amino acids surrounding Ser-116 in human AIFM1. This site is conserved in rat and mouse AIFM1, but the amino acids surrounding the site are not well conserved. The site is not found in AIFM2 and AIFM3.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Related Products

BK6950 Bad Phospho-Regulation Antibody Sampler Kit
 BP5111 Bcl-x Rabbit Polyclonal
 CK6360 Caspase Family Antibody Sampler Kit
 CM3771 Caspase-3 (N-terminal region) Mouse Monoclonal
 CM4911 Caspase-3 (p17 subunit) Mouse Monoclonal

Product References

Holze, C. et al. (2018) Nat Immunol. 19(2):130.
 WB: human HeLa, Jurkat + H2O2

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