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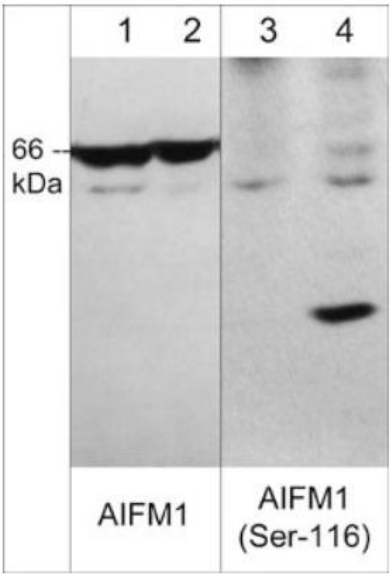
Product Datasheet

Anti-AIFM1 (Ser-116), Phosphospecific Antibody

Overview

Catalog #	AP5501
Size	100 µL
Host Species	Rabbit Polyclonal
Format	Antigen Affinity Purified
Applications	WB 1:1000
Species Tested	Human
Immunogen	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.
Molecular Weight	57/62/66 kDa
Cite this Antibody	PhosphoSolutions Cat# AP5501, RRID:AB_3068369

Images



Western blot image of human jurkat cells untreated (lanes 1 & 3) or treated with calyculin A (100 nM, 30 min.) (lanes 2 and 4). The blot was probed with rabbit polyclonals anti-AIFM1 (C-terminal region) at 1:500 (lanes 1 & 2) and anti-AIFM1 (Ser-116) phospho-specific antibody at 1:1000 (lanes 3 & 4).

Details

Target Description	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.
Specificity	The antibody was cross adsorbed to unphosphorylated AIFM1 (Ser-116) peptide before affinity purification using phospho-AIFM1 (Ser-116) peptide. This antibody 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.
Quality Control	Western blots performed on each lot.
Buffer	PBS + 1 mg/ml BSA, 0.05% NaN_3 and 50% glycerol
Storage	Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.
Stability	After date of receipt, stable for at least 1 year at -20°C.

Significant Citations

Chen, X., Song, Y., Chen, G., Zhang, B., Bai, Y., Sun, C., Fan, D. and Chen, Z. (2024). Circular RNA CircFOXO3 Functions as a Competitive Endogenous RNA for Acid-Sensing Ion Channel Subunit 1 Mediating Oxeiptosis in Nucleus Pulposus. *Biomedicines*, [online] 12(3), p.678.

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Nasirzadeh, M., Hajipirloo, S.A., Aziz, S.G.G., Rasmi, Y., Babaei, G. and Alipour, S., (2023). Alantolactone triggers oxeiptosis in human ovarian cancer cells via Nrf2 signaling pathway. *Biochemistry and Biophysics Reports*, 35, p.101537.

Tsui, K.H. and Li, C.J., (2023). Mitoquinone shifts energy metabolism to reduce ROS-induced oxeiptosis in female granulosa cells and mouse oocytes. *Aging (Albany NY)*, 15(1), p.246.

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