SANTA CRUZ BIOTECHNOLOGY, INC.

AIF (H-300): sc-5586

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A key event in the apoptotic process is the opening of the mitochondrial permeability transition pore, an event that is regulated by Bcl-2 family proteins, resulting in the release of several proteins from the mitochondrial intermembrane space. Several of these proteins participate in apoptosis, including cytochrome c, procaspases-2, -3 and -9, and AIF (apoptosis-inducing factor). AIF was shown to cause DNA fragmentation and chromatin condensation, and to induce the release of cytochrome c and caspase-9 from mitochondria. Bcl-2 overexpression was shown to prevent the release of AIF from mitochondria, but not to block its apoptogenic activity.

REFERENCES

1. Zamzami, N., et al. 1996. Mitochondrial control of nuclear apoptosis. J. Exp. Med. 183: 1533-1544.
2. Susin, S.A., et al. 1996. Bcl-2 inhibits the mitochondrial release of an apoptogenic protease. J. Exp. Med. 184: 1331-1341.

CHROMOSOMAL LOCATION

Genetic locus: AIFM1 (human) mapping to Xq26.1; Aifm1 (mouse) mapping to X A4.

SOURCE

AIF (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of AIF of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-7384 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

AIF (H-300) is recommended for detection of AIF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AIF (H-300) is also recommended for detection of AIF in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AIF siRNA (h): sc-29193, AIF siRNA (m): sc-29194, AIF shRNA Plasmid (h): sc-29193-SH, AIF shRNA Plasmid (m): sc-29194-SH, AIF shRNA (h) Lentiviral Particles: sc-29193-V and AIF shRNA (m) Lentiviral Particles: sc-29194-V.

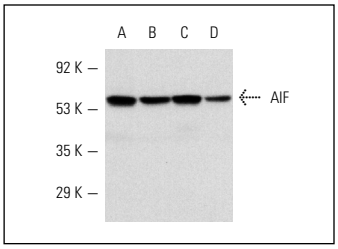
Molecular Weight of AIF: 57 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, Hep G2 cell lysate: sc-2227 or AML-193 whole cell lysate: sc-364182.

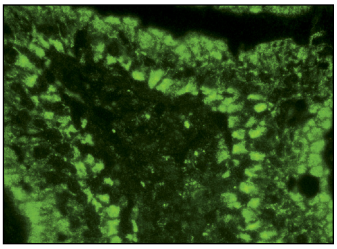
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



AIF (H-300): sc-5586. Western blot analysis of AIF expression in AML-193 (**A**), CCRF-CEM (**B**), Hep G2 (**C**) and MOLT-4 (**D**) whole cell lysates.



AIF (H-300): sc-5586. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic and nuclear staining.

SELECT PRODUCT CITATIONS

1. Rashmi, R., et al. 2003. Human colon cancer cells differ in their sensitivity to curcumin-induced apoptosis and heat shock protects them by inhibiting the release of apoptosis-inducing factor and caspases. FEBS Lett. 538: 19-24.
2. Jendrossek, V., et al. 2003. Apoptotic response of Chang cells to infection with *Pseudomonas aeruginosa* strains PAK and PAO-I: molecular ordering of the apoptosis signaling cascade and role of type IV pili. Infect. Immun. 71: 2665-2673.
3. Vorburger, S.A., et al. 2003. The mitochondrial apoptosis-inducing factor plays a role in E2F-1-induced apoptosis in human colon cancer cells. Ann. Surg. Oncol. 10: 314-322.
4. Malina, H.Z., et al. 2003. Abnormal signalling of 14-3-3 proteins in cells with accumulated xanthurenic acid. Biochem. Biophys. Res. Commun. 310: 646-650.
5. Son, Y.O., et al. 2010. Cadmium induces intracellular Ca^{2+}- and H_2O_2-dependent apoptosis through JNK- and p53-mediated pathways in skin epidermal cell line. Toxicol. Sci. 113: 127-137.
6. Kumar, A., et al. 2011. A novel parthenin analog exhibits anti-cancer activity: activation of apoptotic signaling events through robust NO formation in human leukemia HL-60 cells. Chem. Biol. Interact. 193: 204-215.
7. Hojka-Osinska, A., et al. 2012. Combined treatment with fenretinide and indomethacin induces AIF-mediated, non-classical cell death in human acute T-cell leukemia Jurkat cells. Biochem. Biophys. Res. Commun. 419: 590-595.
8. Khan, S., et al. 2012. A novel cyano derivative of 11-keto-β-boswellic acid causes apoptotic death by disrupting PI3K/AKT/Hsp-90 cascade, mitochondrial integrity, and other cell survival signaling events in HL-60 cells. Mol. Carcinog. 51: 679-695.
9. Tardito, S., et al. 2012. Copper-dependent cytotoxicity of 8-hydroxyquinoline derivatives correlates with their hydrophobicity and does not require caspase activation. J. Med. Chem. 55: 10448-10459.