SANTA CRUZ BIOTECHNOLOGY, INC.

AIF (E-1): sc-13116

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.

CHROMOSOMAL LOCATION

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

SOURCE

AIF (E-1) is a mouse monoclonal antibody raised against amino acids 1-300 of AIF of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AIF (E-1) is available conjugated to agarose (sc-13116 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13116 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13116 PE), fluorescein (sc-13116 FITC), Alexa Fluor® 488 (sc-13116 AF488), Alexa Fluor® 546 (sc-13116 AF546), Alexa Fluor® 594 (sc-13116 AF594) or Alexa Fluor® 647 (sc-13116 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13116 AF680) or Alexa Fluor® 790 (sc-13116 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

AIF (E-1) is recommended for detection of AIF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:200-1:2,000), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

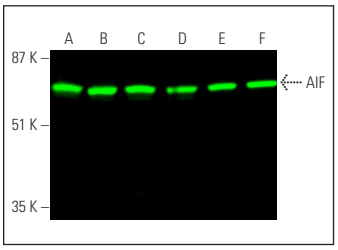
Molecular Weight of AIF: 57 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

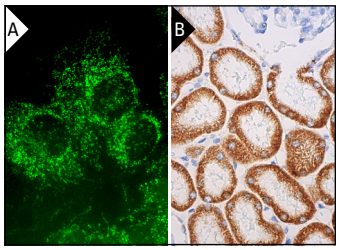
STORAGE

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

DATA



AIF (E-1): sc-13116. Near-infrared western blot analysis of AIF expression in Jurkat (**A**), HeLa (**B**), CCRF-CEM (**C**), MOLT-4 (**D**), C2C12 (**E**) and Sol8 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



AIF (E-1): sc-13116. Immunofluorescence staining of formalin-fixed Hep G2 cells showing mitochondrial localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Piacentini, M., et al. 2002. Transglutaminase overexpression sensitizes neuronal cell lines to apoptosis by increasing mitochondrial membrane potential and cellular oxidative stress. J. Neurochem. 81: 1061-1072.
2. Yoshizumi, T., et al. 2014. Influenza A virus protein PB1-F2 translocates into mitochondria via Tom40 channels and impairs innate immunity. Nat. Commun. 5: 4713.
3. Claus, C., et al. 2015. Activation of the mitochondrial apoptotic signaling platform during rubella virus infection. Viruses 7: 6108-6126.
4. Sabirzhanov, B., et al. 2016. miR-711 upregulation induces neuronal cell death after traumatic brain injury. Cell Death Differ. 23: 654-668.
5. Sugiura, A., et al. 2017. Newly born peroxisomes are a hybrid of mitochondrial and ER-derived pre-peroxisomes. Nature 542: 251-254.
6. Ma, Y.S., et al. 2018. Quercetin induced apoptosis of human oral cancer SAS cells through mitochondria and endoplasmic reticulum mediated signaling pathways. Oncol. Lett. 15: 9663-9672.
7. Han, H., et al. 2019. Lycopene inhibits activation of epidermal growth factor receptor and expression of cyclooxygenase-2 in gastric cancer cells. Nutrients 11: 2113.
8. Won, Y.S. and Seo, K.I. 2020. Sanggenol L induces apoptosis and cell cycle arrest via activation of p53 and suppression of PI3K/Akt/mTOR signaling in human prostate cancer cells. Nutrients 12: 488.
9. Mu, J., et al. 2021. Necrostatin-1 prevents the proapoptotic protein Bcl-2/adenovirus E1B 19-kDa interacting protein 3 from integration into mitochondria. J. Neurochem. 156: 929-942.

RESEARCH USE

For research use only, not for use in diagnostic procedures.