

# AIF (B-9): sc-55519

## 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 (B-9) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of AIF (apoptosis-inducing factor) of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AIF (B-9) is available conjugated to agarose (sc-55519 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55519 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55519 PE), fluorescein (sc-55519 FITC), Alexa Fluor® 488 (sc-55519 AF488), Alexa Fluor® 546 (sc-55519 AF546), Alexa Fluor® 594 (sc-55519 AF594) or Alexa Fluor® 647 (sc-55519 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55519 AF680) or Alexa Fluor® 790 (sc-55519 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

AIF (B-9) is recommended for detection of AIF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) 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: HeLa whole cell lysate: sc-2200, CCRF-CEM cell lysate: sc-2225 or K-562 whole cell lysate: sc-2203.

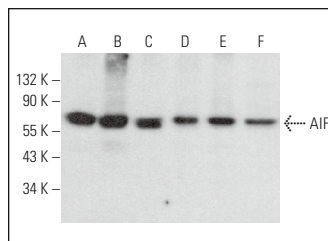
## STORAGE

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

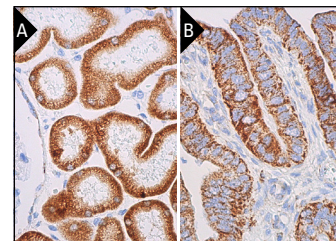
## RESEARCH USE

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

## DATA



AIF (B-9): sc-55519. Western blot analysis of AIF expression in HeLa (A), K-562 (B), CCRF-CEM (C), MOLT-4 (D), C2C12 (E) and BC3H1 (F) whole cell lysates.



AIF (B-9): sc-55519. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Romani, A.A., et al. 2010. The BH3-mimetic ABT-737 targets the apoptotic machinery in cholangiocarcinoma cell lines resulting in synergistic interactions with zoledronic acid. *Cancer Chemother. Pharmacol.* 675: 557-567.
- Leon, L.J., et al. 2013. A cell-permeant amiloride derivative induces caspase-independent, AIF-mediated programmed necrotic death of breast cancer cells. *PLoS ONE* 8: e63038.
- Xu, S., et al. 2014. AIF downregulation and its interaction with STK3 in renal cell carcinoma. *PLoS ONE* 9: e100824.
- Zhou, M.T., et al. 2015. Quantitative proteomics reveals the roles of peroxisome-associated proteins in antiviral innate immune responses. *Mol. Cell. Proteomics* 14: 2535-2549.
- Girault, V., et al. 2017. Prenatal alcohol exposure impairs autophagy in neonatal brain cortical microvessels. *Cell Death Dis.* 8: e2610.
- Zhang, Y.H., et al. 2018.  $\alpha$ -Lipoic acid improves abnormal behavior by mitigation of oxidative stress, inflammation, ferroptosis, and tauopathy in P301S Tau transgenic mice. *Redox Biol.* 14: 535-548.
- Liang, Q., et al. 2019. Role of mitochondrial damage in Cr(VI)-induced endoplasmic reticulum stress in L-02 hepatocytes. *Mol. Med. Rep.* 19: 1256-1265.
- Serralha, R.S., et al. 2020. Esculin reduces P2X7 and reverses mitochondrial dysfunction in the renal cortex of diabetic rats. *Life Sci.* 254: 117787.
- Mashimo, M., et al. 2021. The 89-kDa PARP1 cleavage fragment serves as a cytoplasmic PAR carrier to induce AIF-mediated apoptosis. *J. Biol. Chem.* 296: 100046.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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