CELL APPLICATIONS, INC.

AIF Antibody

Cat. No. CP10400

Applications:	**WB, IP, IHC, ICC, FACS**
Detected MW:	**67 kDa**
Species & Reactivity:	**Human, Mouse, Rat**
Isotype:	**Mouse IgG1**

BACKGROUND

Numerous pro-apoptotic signal transducing molecules act on mitochondria and provoke the permeabilization of the outer mitochondrial membrane, thereby triggering the release of potentially toxic mitochondrial proteins. One of these proteins, apoptosis-inducing factor (AIF), is a phylogenetically old flavoprotein which, in healthy cells, is confined to the mitochondrial intermembrane space. Upon lethal signaling, AIF translocates, via the cytosol, to the nucleus where it binds to DNA and provokes caspase-independent Chromatin condensation. It also acts as an NADH oxidase.[1] The apoptogenic and oxidoreductase functions of AIF can be dissociated. Thus, mutations that abolish the AIF-DNA interaction suppress AIF-induced chromatin condensation, yet have no effect on the NADH oxidase activity. Recent studies suggest AIF to be a major factor determining caspase-independent neuronal death, emphasizing the central role of mitochondria in the control of physiological and pathological cell demise. In addition, this gene product induces mitochondria to release the apoptogenic proteins cytochrome c and caspase-9.[2] Several AIF isforms have been identified from alternative transcripts.[3] The mammalian AIF precursor contains an N-terminal mitochondrial localization sequence (MLS, residues 1-100) and a large C-terminal part (121-610) that shares similarity with bacterial oxidoreductases. The mature form of AIF (57 kDa) is generated by cleaving of the MLS, after import into the mitochondrial intermembrane space.

References:
1. Cande, C. et al: J. Cell Sci. 115:4727-34, 2002
2. Joza, N. et al: Nature 410:549-554, 2001
3. Delettre, C. et al: J. Biol. Chem. 281:18507-18, 2006

TECHNICAL INFORMATION

Source:
AIF Antibody is a mouse monoclonal antibody raised against recombinant human AIF fragments expressed in *E. coli*.

Specificity and Sensitivity:
This antibody detects AIF proteins in various cell lysate.

Storage Buffer: PBS and 30% glycerol

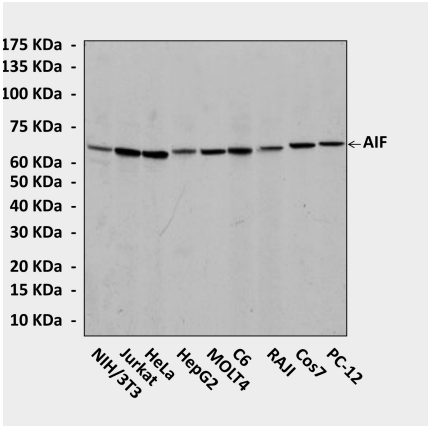
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

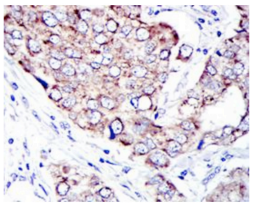
APPLICATIONS

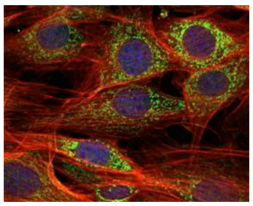
Application:	*Dilution:
WB	1:1000
IP	1:50
IHC (Paraffin)	1:50-200
ICC	1:50-200
FACS	1:50-200

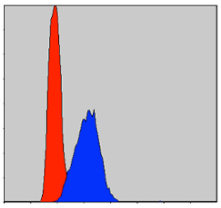
**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA









Top: Western blot detection of AIF proteins in various cell lysates using AIF Antibody. **Middle, Upper:** It also stains paraffin-embedded human breast cancer tissue in IHC analysis. **Middle, Lower:** This antibody stains NIH3T3 cells in confocal immunofluorescent testing (AIF Antibody: Green; Actin filaments: Red; DRAQ5 DNA Dye: Blue). **Bottom:** This antibody detects AIF proteins specifically in HepG2 cells by FACS assay (AIF Antibody: Blue; negative control: Red).