

AIF (D39D2) XP[®] Rabbit mAb



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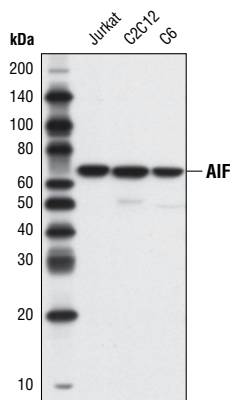
rev. 05/04/16

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC, IF-F Endogenous	H, M, R, Mk, (B, Dg)	67 kDa	Rabbit IgG**

Background: Apoptosis-inducing factor (AIF, PDCD8) is a ubiquitously expressed flavoprotein that plays a critical role in caspase-independent apoptosis (reviewed in 1,2). AIF is normally localized to the mitochondrial intermembrane space and released in response to apoptotic stimuli (3). Treatment of isolated nuclei with recombinant AIF leads to early apoptotic events such as chromatin condensation and large-scale DNA fragmentation (3). Studies of AIF knockout mice have shown that the apoptotic activity of AIF is cell type and stimuli-dependent. Also noted was that AIF was required for embryoid body cavitation, representing the first wave of programmed cell death during embryonic morphogenesis (4). Structural analysis of AIF revealed two important regions, the first having oxidoreductase activity and the second being a potential DNA binding domain (3,5). While AIF is redox-active and can behave as an NADH oxidase, this activity is not required for inducing apoptosis (6). Instead, recent studies suggest that AIF has dual functions, a pro-apoptotic activity in the nucleus via its DNA binding and an anti-apoptotic activity via the scavenging of free radicals through its oxidoreductase activity (2,7).

Specificity/Sensitivity: AIF (D39D2) XP[®] Rabbit mAb detects endogenous levels of total AIF protein.



Western blot analysis of extracts from Jurkat, C2C12, and C6 cells using AIF (D39D2) XP[®] Rabbit mAb.

Source/Purification: Monoclonal antibody was produced by immunizing animals with a synthetic peptide corresponding to a residues surrounding Ala520 of human AIF protein.

Entrez-Gene ID #9131
 UniProt ID #O95831

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (IF-IC)	1:400
Immunofluorescence (IF-F)	1:400

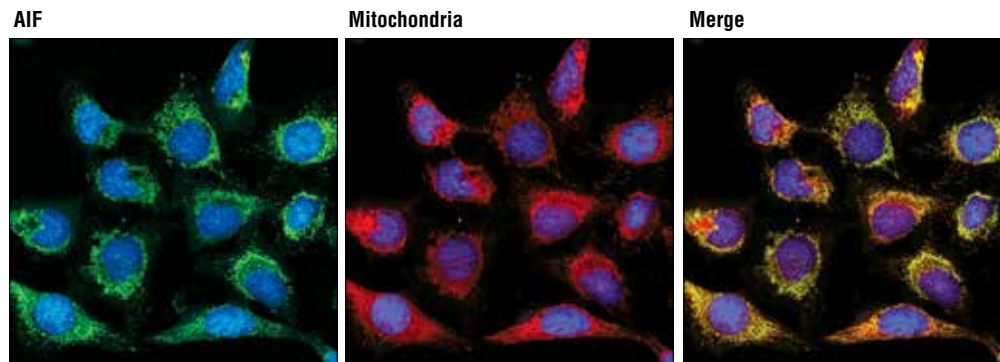
For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Daugas, E. et al. (2000) *FEBS Lett* 476, 118-23.
- (2) Lipton, S.A. and Bossy-Wetzel, E. (2002) *Cell* 111, 147-50.
- (3) Susin, S.A. et al. (1999) *Nature* 397, 441-6.
- (4) Joza, N. et al. (2001) *Nature* 410, 549-54.
- (5) Ye, H. et al. (2002) *Nat Struct Biol* 9, 680-4.
- (6) Miramar, M.D. et al. (2001) *J Biol Chem* 276, 16391-8.
- (7) Klein, J.A. et al. (2002) *Nature* 419, 367-74.

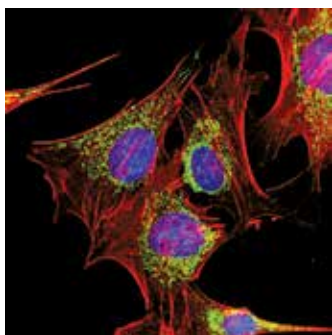
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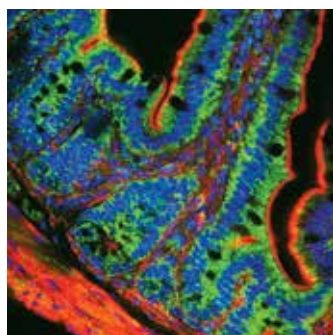
Confocal immunofluorescent analysis of HeLa cells using AIF (D39D2) XP[®] Rabbit mAb (green), showing colocalization with mitochondria that have been labeled with MitoTracker[®] Red CMXRos (red). Blue pseudocolor = DRAQ5[®] #4084 (fluorescent DNA dye).

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween[®]20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected
 Species enclosed in parentheses are predicted to react based on 100% homology.



Confocal immunofluorescent analysis of C2C12 cells using AIF (D39D2) XP® Rabbit mAb #5318 (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Confocal analysis of mouse small intestine using AIF (D39D2) XP® Rabbit mAb (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).