

Apaf-1 (5E11): sc-65891

BACKGROUND

The mammalian homologs of the CED-4 proteins, Apaf-1 (CED-4), Nod1 (CARD4), and Nod2 contain a caspase recruitment domain (CARD) and a putative nucleotide binding domain, signified by a consensus Walker's A box (P-loop) and B box (Mg²⁺-binding site). Nod1 contains a putative regulatory domain and multiple leucine-rich repeats. Nod1 is a member of a growing family of intracellular proteins which share structural homology to the apoptosis regulator Apaf-1. Nod1 associates with the CARD-containing kinase RICK and activates NFκB. The self-association of Nod1 mediates proximity of RICK and the interaction of RICK with IKKγ. In addition, Nod1 binds to multiple caspases with long prodomains, but specifically activates caspase-9 and promotes caspase-9-induced apoptosis. Nod2 is composed of two N-terminal CARDS, a nucleotide-binding domain, and multiple C-terminal leucine-rich repeats. The expression of Nod2 is highly restricted to monocytes, and activates NFκB in response to bacterial lipopoly-saccharides.

REFERENCES

1. Bertin, J., et al. 1999. Human CARD4 protein is a novel CED-4/Apaf-1 cell death family member that activates NFκB. *J. Biol. Chem.* 274: 12955-12958.
2. Inohara, N., et al. 1999. Nod1, an Apaf-1-like activator of caspase-9 and nuclear factor-κB. *J. Biol. Chem.* 274: 14560-14567.

CHROMOSOMAL LOCATION

Genetic locus: APAF1 (human) mapping to 12q23.1; Apaf1 (mouse) mapping to 10 C2.

SOURCE

Apaf-1 (5E11) is a mouse monoclonal antibody raised against a peptide corresponding to amino acids near the C-terminus of Apaf-1 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Apaf-1 (5E11) is recommended for detection of Apaf-1 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Apaf-1 siRNA (h): sc-29201, Apaf-1 siRNA (m): sc-37147, Apaf-1 shRNA Plasmid (h): sc-29201-SH, Apaf-1 shRNA Plasmid (m): sc-37147-SH, Apaf-1 shRNA (h) Lentiviral Particles: sc-29201-V and Apaf-1 shRNA (m) Lentiviral Particles: sc-37147-V.

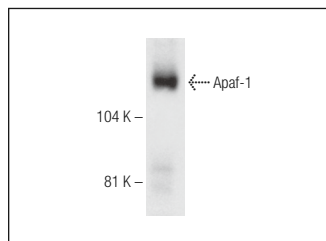
Molecular Weight of Apaf-1: 130 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, PC-12 cell lysate: sc-2250 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.

DATA



Apaf-1 (5E11): sc-65891. Western blot analysis of Apaf-1 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sun, K.W., et al. 2012. Oridonin induces apoptosis in gastric cancer through Apaf-1, cytochrome c and caspase-3 signaling pathway. *World J. Gastroenterol.* 18: 7166-7174.
2. Aredia, F., et al. 2013. Multiple effects of the Na⁺/H⁺ antiporter inhibitor HMA on cancer cells. *Apoptosis* 18: 1586-1598.
3. Zheng, S., et al. 2017. Inhibiting p53 acetylation reduces cancer chemotoxicity. *Cancer Res.* 77: 4342-4354.
4. Roy, S., et al. 2017. α-linolenic acid stabilizes HIF-1 α and downregulates FASN to promote mitochondrial apoptosis for mammary gland chemoprevention. *Oncotarget* 8: 70049-70071.
5. Roy, S., et al. 2018. GLA supplementation regulates PHD2 mediated hypoxia and mitochondrial apoptosis in DMBA induced mammary gland carcinoma. *Int. J. Biochem. Cell Biol.* 96: 51-62.
6. Park, S.H., et al. 2018. Subcellular HSP70 inhibitors promote cancer cell death via different mechanisms. *Cell Chem. Biol.* 25: 1242-1254.
7. Devi, U., et al. 2019. Activation of prolyl hydroxylase-2 for stabilization of mitochondrial stress along with simultaneous downregulation of HIF-1α/FASN in ER⁺ breast cancer subtype. *Cell Biochem. Funct.* 37: 216-227.
8. Rawat, J.K., et al. 2019. Transcutaneous vagus nerve stimulation regulates the cholinergic anti-inflammatory pathway to counteract 1, 2-dimethylhydrazine induced colon carcinogenesis in albino wistar rats. *Front. Pharmacol.* 10: 353.
9. Yadav, R.K., et al. 2019. α-linolenic acid based nano-suspension protect against lipopolysaccharides induced mastitis by inhibiting NFκB p65, HIF-1α, and mitochondria-mediated apoptotic pathway in albino Wistar rats. *Toxicol. Appl. Pharmacol.* 377: 114628.

RESEARCH USE

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