SANTA CRUZ BIOTECHNOLOGY, INC.

Apaf-1 (24): sc-135836

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (Mg^{2+}-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, Nod-1 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.
3. Inohara, N., et al. 2000. An induced proximity model for NFκB activation in the Nod1/RICK and RIP signaling pathways. J. Biol. Chem. 275: 27823-27831.
4. Inohara, N., et al. 2000. Human Nod1 confers responsiveness to bacterial lipopolysaccharides. J. Biol. Chem. 276: 2551-2554.
5. Ogura, Y., et al. 2000. Nod2, a Nod1/Apaf-1 family member that is restricted to monocytes and activates NFκB. J. Biol. Chem. 276: 4812-4818.
6. Hlaing, T., et al. 2001. Molecular cloning and characterization of defcap-l and -s, two isoforms of a novel member of the mammalian CED-4 family of apoptosis proteins. J. Biol. Chem. 276: 9230-9238.
7. Leo, C., et al. 2005. Expression of Apaf-1 in cervical cancer correlates with lymph node metastasis but not with intratumoral hypoxia. Gynecol. Oncol. 97: 602-606.
8. Peltenburg, L.T., et al. 2005. Expression and function of the apoptosis effector Apaf-1 in melanoma. Cell Death Differ. 12: 678-679.

CHROMOSOMAL LOCATION

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

SOURCE

Apaf-1 (24) is a mouse monoclonal antibody raised against amino acids 252-445 of Apaf-1 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

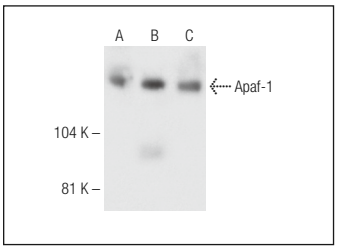
Apaf-1 (24) is recommended for detection of Apaf-1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 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.

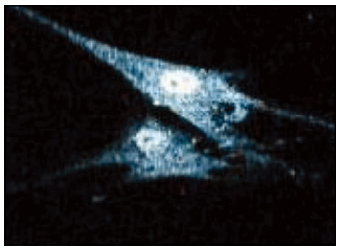
Molecular Weight of Apaf-1: 130 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, ECV304 cell lysate: sc-2269 or SW-13 whole cell lysate: sc-24778.

DATA



Apaf-1 (24): sc-135836. Western blot analysis of Apaf-1 expression in Jurkat (**A**), ECV304 (**B**) and SW-13 (**C**) whole cell lysates.



Apaf-1 (24): sc-135836. Immunofluorescence staining of WI-38 cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Toscani, D., et al. 2016. The proteasome inhibitor bortezomib maintains osteocyte viability in multiple myeloma patients by reducing both apoptosis and autophagy: a new function for proteasome inhibitors. J. Bone Miner. Res. 31: 815-827.
2. Li, X., et al. 2018. Targeting cysteine-rich angiogenic inducer-61 by antibody immunotherapy suppresses growth and migration of non-small cell lung cancer. Exp. Ther. Med. 16: 730-738.
3. Elena-Real, C.A., et al. 2018. Cytochrome c speeds up caspase cascade activation by blocking 14-3-3ε-dependent Apaf-1 inhibition. Cell Death Dis. 9: 365.

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. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.