

# Apaf-1 (24): sc-135836

## 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<sup>2+</sup>-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

- 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.
- Inohara, N., et al. 1999. Nod1, an Apaf-1-like activator of caspase-9 and nuclear factor-κB. *J. Biol. Chem.* 274: 14560-14567.
- 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.
- Inohara, N., et al. 2000. Human Nod1 confers responsiveness to bacterial lipopolysaccharides. *J. Biol. Chem.* 276: 2551-2554.
- 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.
- Hlaing, T., et al. 2001. Molecular cloning and characterization of defcap-1 and -s, two isoforms of a novel member of the mammalian CED-4 family of apoptosis proteins. *J. Biol. Chem.* 276: 9230-9238.
- 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.
- 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<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

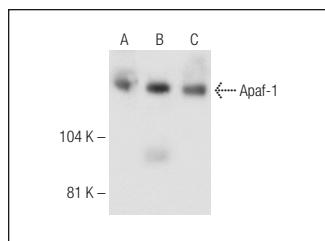
Apaf-1 (24) is recommended for detection of Apaf-1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution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

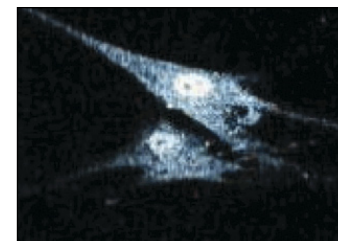
Molecular Weight of Apaf-1: 130 kDa.

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

- 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.
- 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.
- 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](http://www.scbt.com) for detailed protocols and support products.