SANTA CRUZ BIOTECHNOLOGY, INC.

Apaf-1 (2E12): sc-135623

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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 NFκB. 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. 2001. Human Nod1 confers responsiveness to bacterial lipopolysaccharides. J. Biol. Chem. 276: 2551-2554.
5. Ogura, Y., et al. 2001. 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.
9. Allen, J.D., et al. 2005. Is Apaf-1 expression frequently abrogated in melanoma? Cell Death Differ. 12: 680-681.

CHROMOSOMAL LOCATION

Genetic locus: APAF1 (human) mapping to 12q23.1.

SOURCE

Apaf-1 (2E12) is a rat monoclonal antibody raised against a recombinant protein corresponding to amino acids 1-464 of Apaf-1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

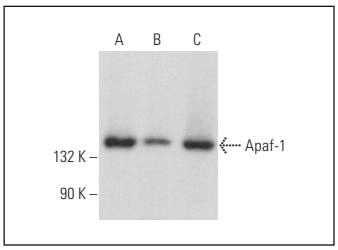
Apaf-1 (2E12) is recommended for detection of the Apaf-1 CARD domain of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with mouse or rat Apaf-1.

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

Molecular Weight of Apaf-1: 130 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, DU 145 cell lysate: sc-2268 or HeLa whole cell lysate: sc-2200.

DATA



Apaf-1 (2E12): sc-135623. Western blot analysis of Apaf-1 expression in HEK293 (**A**), DU 145 (**B**) and HeLa (**C**) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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