SANTA CRUZ BIOTECHNOLOGY, INC.

Apaf-1 (N-19): sc-7232

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 Iκκγ. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Apaf-1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Apaf-1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7232 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Apaf-1 (N-19) 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), 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).

Apaf-1 (N-19) is also recommended for detection of Apaf-1 in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of Apaf-1: 130 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or C2C12 cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Cecconi, F., et al. 1998. Apaf1 (CED-4 homolog) regulates programmed cell death in mammalian development. Cell 94: 727-737.
2. Paris, F., et al. 2001. Natural ceramide reverses Fas resistance of acid sphingomyelinase$^{-/-}$ hepatocytes. J. Biol. Chem. 276: 8297-8305.
3. La Sala, D., et al. 2003. Triggering of p73-dependent apoptosis in osteosarcoma is under the control of E2Fs-pRB2/p130 complexes. Oncogene 22: 3518-3529.

RESEARCH USE

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