SANTA CRUZ BIOTECHNOLOGY, INC.

NOD1 (F-6): sc-398398

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, 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: NOD1 (human) mapping to 7p14.3; Nod1 (mouse) mapping to 6 B3.

SOURCE

NOD1 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 707-730 near the C-terminus of NOD1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-398398 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NOD1 (F-6) is recommended for detection of NOD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for NOD1 siRNA (h): sc-37279, NOD1 siRNA (m): sc-37280, NOD1 shRNA Plasmid (h): sc-37279-SH, NOD1 shRNA Plasmid (m): sc-37280-SH, NOD1 shRNA (h) Lentiviral Particles: sc-37279-V and NOD1 shRNA (m) Lentiviral Particles: sc-37280-V.

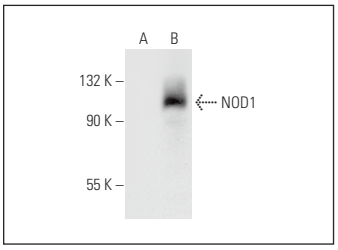
Molecular Weight of NOD1: 108 kDa.

Positive Controls: NOD1 (h): 293T Lysate: sc-113586.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NOD1 (F-6): sc-398398. Western blot analysis of NOD1 expression in non-transfected: sc-117752 (**A**) and human NOD1 transfected: sc-113586 (**B**) 293T 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.

RESEARCH USE

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

PROTOCOLS

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