Revision 1

#3545 Store at -20C

Nod1 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	95	Rabbit	#Q9Y239	10392

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Nod1 Antibody detects endogenous levels of Nod1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of Nod1 protein. Antibodies were purified by protein A and peptide affinity chromatography.

Background

Nod1/CARD4 is a cytosolic protein structually related to Apaf-1 and plant drug-resistance proteins that has been implicated in apoptosis and inflammatory responses to certain pathogenic bacteria (1-3). It contains an amino-terminal caspase recruitment domain (CARD) that is linked to a central nucleotide-binding domain (NBD; also known as a NOD domain) and is followed by carboxy-terminal leucine-rich repeats (LRR) (1). Like Apaf-1, Nod1 induces apoptosis by a CARD/NBD-dependent activation of caspase-9 (1). The primary function of Nod1 is thought to be as a sensor for certain pathogenic microbes and triggering inflammatory responses including the activation of NF-κB and JNK pathways (4-6). The LRR of Nod1 appears to be involved in recognition of microbial components and the CARD domain induces NF-κB activation in cooperation with the CARD containing kinase, RICK/RIP2/CARDIAK (1,5,6). Mutations in Nod1 have been linked increased susceptibility to asthma (7) and inflammatory bowel disease (8).

Background References

1. Inohara, N. et al. (1999) *J. Biol. Chem.* 274, 14560-14567.
2. Inohara, N. and Nuñez, G. (2003) *Nat. Rev. Immunol.* 3, 371-382.
3. Fritz, J.H. et al. (2006) *Nat .Immunol.* 7, 1250-1257.
4. Girardin, S.E. et al. (2001) *EMBO Rep.* 2, 736-742.
5. Inohara, N. et al. (2001) *J. Biol. Chem.* 276, 2551-2554.
6. Inohara, N. et al. (2000) *J. Biol. Chem.* 275, 27823-27831.
7. Hysi, P. et al. (2005) *Hum. Mol. Genet.* 14, 935-941.
8. McGovern, D.P. et al. (2005) *Hum. Mol. Genet.* 14, 1245-1250.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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