Revision 4

#4990 Store at -20C

NALP1 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	165, 70	Rabbit	#Q9C000	22861

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

NALP1 Antibody detects endogenous levels of total NALP1 protein. This antibody also detects a 70 kDa protein that correlates with a predicted short form ($NALP1_S$) that lacks the leucine repeat region (7).

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide that corresponds to a region surrounding Gly1081 of human NALP1 protein. Antibodies were purified by peptide affinity chromatography.

Background

NALP1 (DEFCAP/NAC/CARD7) is an NLR (Nod-like receptor) family member that has been implicated in the regulation of apoptosis and inflammatory responses (1-5). Structurally, NALP contains an amino-terminal PYRIN domain, followed by a nucleotide-binding site (NBS), a leucine-rich repeat region (LRR), and a carboxy-terminal CARD domain. NALP1 interacts strongly with caspase-2 and weakly with caspase-9, and induces apoptosis when overexpressed (3). Similar to a related Ced-4 family member Apaf-1, it was also shown to be involved in cytochrome c-dependent caspase activation (2). It has also been shown to be part of the "inflammasome" comprised of caspase-1, caspase-5, and Pycard/ASC, which is critical in the processing of pro-inflammatory cytokines like IL-1β (6). Two major isoforms were identified for NALP1, which differ in a 44 amino acid region within the LRR (3). In addition, like NALP3, a short NALP1 isoform lacking the LRR ($NALP1_S$) likely exists (7). Polymorphisms in NALP1 have been associated with autoimmune diseases (8) and susceptibility to toxins (9).

Background References

1. Bertin, J. and DiStefano, P.S. (2000) *Cell Death Differ.* 7, 1273-1274.
2. Chu, Z.L. et al. (2001) *J. Biol. Chem.* 276, 9239-9245.
3. Hlaing, T. et al. (2001) *J. Biol. Chem.* 276, 9230-9238.
4. Martinon, F. et al. (2001) *Curr. Biol.* 11, R118-R120.
5. Fritz, J.H. et al. (2006) *Nat. Immunol.* 7, 1250-1257.
6. Martinon, F. et al. (2002) *Mol. Cell* 10, 417-426.
7. Kummer, J.A. et al. (2007) *J. Histochem. Cytochem.* 55, 443-452.
8. Jin, Y. et al. (2007) *N. Engl. J. Med.* 356, 1216-1225.
9. Boyden, E.D. and Dietrich, W.F. (2006) *Nat. Genet.* 38, 240-244.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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