

#12421 Store at -20°C

**NLRC4 (D5Y8E) Rabbit mAb****Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	110	Rabbit IgG	#Q9NPP4	58484

**Product Usage Information****Application****Dilution**

Western Blotting

1:1000

Immunoprecipitation

1:100

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity / Sensitivity**

NLRC4 (D5Y8E) Rabbit mAb recognizes endogenous levels of total NLRC4 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu942 of human NLRC4 protein.

**Background**

The nucleotide-binding oligomerization domain (NOD)-like receptor (NLR) family of proteins is a diverse family of cytoplasmic innate immune receptors. They are characterized by the presence of an amino-terminal effector domain, which is often either a caspase activation and recruitment domain (CARD) or a pyrin domain (PYD), followed by a NACHT domain and carboxy-terminal leucine-rich-repeats (LRR) involved in recognition of pathogen-associated molecular patterns (PAMPs) (1). NLR proteins play a variety of roles during the innate immune response including pathogen sensing, transcriptional activation of proinflammatory cytokines through NF-κB, transcriptional activation of type I interferons through IRFs, and formation of inflammasomes leading to activation of inflammatory caspases (1-7).

The NLRC4 (IPAF) inflammasome forms in response to bacterial flagellin as well as components of the bacterial conserved type II secretion system (TTSS) (8-12). Ligand detection and ligand-dependent NLRC4 oligomerization and inflammasome activation require the NAIP family of proteins (13,14). In mice, NAIP5 and NAIP6 associate with flagellin, while NAIP2 interacts with TTSS rod proteins (13,14). In humans, NAIP recognizes the TTSS needle protein CprI (14). In addition, NLRC4 is phosphorylated by PKCδ in response to bacterial infection and this phosphorylation is required for inflammasome assembly and caspase-1 activation (15).

**Background References**

1. Elinav, E. et al. (2011) *Immunity* 34, 665-79.
2. Inohara, N. et al. (1999) *J Biol Chem* 274, 14560-7.
3. Ogura, Y. et al. (2001) *J Biol Chem* 276, 4812-8.
4. Sabbah, A. et al. (2009) *Nat Immunol* 10, 1073-80.
5. Mariathasan, S. et al. (2004) *Nature* 430, 213-8.
6. Agostini, L. et al. (2004) *Immunity* 20, 319-25.
7. Martinon, F. et al. (2002) *Mol Cell* 10, 417-26.
8. Poyet, J.L. et al. (2001) *J Biol Chem* 276, 28309-13.
9. Mariathasan, S. et al. (2004) *Nature* 430, 213-8.
10. Franchi, L. et al. (2006) *Nat Immunol* 7, 576-82.
11. Miao, E.A. et al. (2006) *Nat Immunol* 7, 569-75.
12. Miao, E.A. et al. (2010) *Proc Natl Acad Sci U S A* 107, 3076-80.
13. Kofoed, E.M. and Vance, R.E. (2011) *Nature* 477, 592-5.
14. Zhao, Y. et al. (2011) *Nature* 477, 596-600.
15. Qu, Y. et al. (2012) *Nature* 490, 539-42.

**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 **IP:** Immunoprecipitation**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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