

NLRP3 (D4D8T) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IP	H M	Endogenous	110	Rabbit IgG	#Q8R4B8	216799

Product Usage Information**Application**

Western Blotting
Simple Western™
Immunoprecipitation

Dilution

1:1000
1:10 - 1:50
1:200

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

NLRP3 (D4D8T) Rabbit mAb recognizes endogenous levels of total NLRP3 protein.

Species predicted to react based on 100% sequence homology

Hamster

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala306 of mouse NLRP3 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). NLRP3 is an inflammasome-forming NLR that activates caspase-1 leading to maturation of IL-1β and IL-18 (8). The NLRP3 inflammasome is assembled in response to a wide variety of microbial and endogenous stimuli, and therefore it is unlikely the NLRP3 directly interacts with its activators (8). NLRP3 is expressed at highest levels in dendritic cells, monocytes, and macrophages (9).

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. Franchi, L. et al. (2012) *Nat Immunol* 13, 325-32.
9. Guarda, G. et al. (2011) *J Immunol* 186, 2529-34.

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

W: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse

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