

**NALP6 Antibody**  
Catalog # ASC11195**Specification****NALP6 Antibody - Product Information**

Application	WB, IF
Primary Accession	<a href="#">P59044</a>
Other Accession	<a href="#">NP_612202</a> , <a href="#">21264320</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	NALP6 antibody can be used for detection of NALP6 by Western blot at 1 µg/mL. Antibody can also be used for immunofluorescence starting at 20 µg/mL. For immunofluorescence start at 20 µg/mL.

**NALP6 Antibody - Additional Information**

Gene ID	171389
Target/Specificity	
NLRP6;	

**Reconstitution & Storage**

NALP6 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

NALP6 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**NALP6 Antibody - Protein Information**

**Name** NLRP6 {ECO:0000303|PubMed:21088234, ECO:0000312|HGNC:HGNC:22944}

**Function**

Acts as the sensor component of the NLRP6 inflammasome, which mediates inflammasome activation in response to various pathogen-associated signals, leading to maturation and secretion of IL1B and IL18 (PubMed: [30392956](http://www.uniprot.org/citations/30392956), PubMed: [34678144](http://www.uniprot.org/citations/34678144)). Inflammasomes are supramolecular complexes that assemble in the cytosol in response to pathogens and other damage-associated signals and play critical roles in innate immunity and inflammation (PubMed: [30674671](http://www.uniprot.org/citations/30674671)). Acts as a recognition receptor (PRR): recognizes and binds specific pathogens and other damage-associated signals, such as lipoteichoic acid (LTA), a cell-wall component of Gram-positive bacteria, or double

stranded RNA (dsRNA) (PubMed:<a href="http://www.uniprot.org/citations/30392956" target="\_blank">30392956</a>, PubMed:<a href="http://www.uniprot.org/citations/33377178" target="\_blank">33377178</a>, PubMed:<a href="http://www.uniprot.org/citations/34678144" target="\_blank">34678144</a>). May also recognize and bind lipopolysaccharide (LPS), a major component of the outer membrane of Gram-negative bacteria; however, LPS is probably not a major activator of the NLRP6 inflammasome (PubMed:<a href="http://www.uniprot.org/citations/31932628" target="\_blank">31932628</a>, PubMed:<a href="http://www.uniprot.org/citations/34678144" target="\_blank">34678144</a>). Following LTA- or dsRNA-binding, NLRP6 undergoes liquid-liquid phase separation (LLPS), enhancing multivalent interactions, an essential step for the formation of the NLRP6 inflammasome polymeric complex (PubMed:<a href="http://www.uniprot.org/citations/34678144" target="\_blank">34678144</a>). The NLRP6 inflammasome acts by promoting recruitment of effector pro-inflammatory caspases (CASP1 and/or CASP4) that catalyze maturation and secretion of IL1B and IL18 in the extracellular milieu (PubMed:<a href="http://www.uniprot.org/citations/12387869" target="\_blank">12387869</a>, PubMed:<a href="http://www.uniprot.org/citations/30392956" target="\_blank">30392956</a>, PubMed:<a href="http://www.uniprot.org/citations/30674671" target="\_blank">30674671</a>, PubMed:<a href="http://www.uniprot.org/citations/34678144" target="\_blank">34678144</a>). The NLRP6 inflammasome plays a central role in the maintenance of epithelial integrity and host defense against microbial infections in the intestine (PubMed:<a href="http://www.uniprot.org/citations/30392956" target="\_blank">30392956</a>). Required to restrict infection against Gram-positive bacteria by recognizing lipoteichoic acid (LTA), leading to recruitment of CASP4 and CASP1, and subsequent maturation and secretion of IL1B and IL18 (PubMed:<a href="http://www.uniprot.org/citations/30392956" target="\_blank">30392956</a>, PubMed:<a href="http://www.uniprot.org/citations/33377178" target="\_blank">33377178</a>). Involved in intestinal antiviral innate immunity together with DHX15: recognizes and binds viral dsRNA to restrict infection by enteric viruses through the interferon pathway and GSDMD-dependent release of IL18 (PubMed:<a href="http://www.uniprot.org/citations/34161762" target="\_blank">34161762</a>, PubMed:<a href="http://www.uniprot.org/citations/34678144" target="\_blank">34678144</a>). Required to prevent infection by the apicomplexan parasite *Cryptosporidium* in enterocytes by promoting GSDMD-dependent release of IL18 (By similarity). The NLRP6 inflammasome may also regulate the gut microbiota composition by acting as a sensor of microbiota-associated metabolites to form a PYCARD/ASC-dependent inflammasome for downstream IL18 release and secretion of antimicrobial peptides (By similarity). Essential for gut mucosal self-renewal and proliferation (By similarity). Regulate mucus secretion in an inflammasome- and autophagy-dependent manner to prevent invasion by enteric bacteria, (By similarity). During systemic bacterial infections, the NLRP6 inflammasome negatively regulates neutrophil recruitment and neutrophil extracellular traps (NETs) formation (By similarity). May promote peripheral nerve recovery following injury via an inflammasome-independent mechanism (By similarity).

#### Cellular Location

Cytoplasm, cytosol. Inflammasome. Cell membrane {ECO:0000250|UniProtKB:Q63035}. Nucleus membrane {ECO:0000250|UniProtKB:Q63035}

#### Tissue Location

Expressed in peripheral blood leukocytes, predominantly in granulocytes and, at lower levels, in CD4(+) and CD8(+) T-cells (PubMed:12387869). Expressed in colonic myofibroblasts (at protein level) (PubMed:21593405).

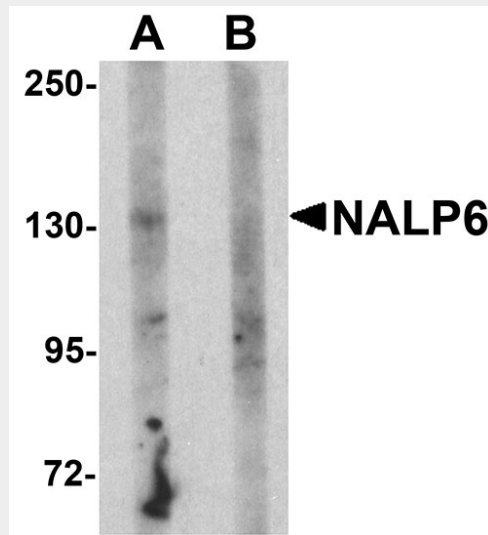
#### NALP6 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

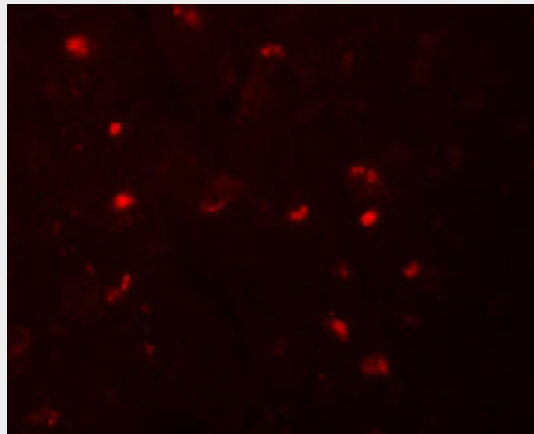
- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### NALP6 Antibody - Images



Western blot analysis of NALP6 in mouse brain tissue lysate with NALP6 antibody at 1  $\mu\text{g}/\text{mL}$  in (A) the absence and (B) the presence of blocking peptide.



Immunofluorescence of NALP6 in human brain tissue with NALP6 antibody at 20  $\mu\text{g}/\text{mL}$ .

#### NALP6 Antibody - Background

NALP6 Antibody: NALP proteins include the apoptosis regulator APAF1 (apoptotic protease activating factor 1) and mammalian NOD-LRR proteins and are thought to be involved in inflammation and reproduction. NALP6, also known as PYPAF5, is highly expressed in granulocytes and T cells and co-localizes with the PYRIN-CARD protein ASC. Co-expression of NALP6 with ASC results in a synergistic activation of NF- $\kappa$ B and activated caspase-1-dependent cytokine processing, suggesting that NALP6 functions in immune cells to coordinate the transduction of pro-inflammatory signals.

### **NALP6 Antibody - References**

Tschopp J, Martinon F, and Burns K. NALPs: a novel protein family involved in inflammation. Nat. Rev. Mol. Cell Biol.2003; 4:95-104.

Tian X, Pascal G, and Monget P. Evolution and functional divergence of NLRP genes in mammalian reproductive system. BMC Evol. Biol.2009; 9:202.

Grenier JM, Wang L, Manji GA, et al. Functional screening of five PYPAF family members identifies PYPAF5 as a novel regulator of NF-kappaB and caspase-1. FEBS Lett.2002; 530:73-8.

### **NALP6 Antibody - Citations**

- [NLRP6 modulates neutrophil homeostasis in bacterial pneumonia-derived sepsis](#)
- [NLRP6 negatively regulates pulmonary host defense in Gram-positive bacterial infection through modulating neutrophil recruitment and function.](#)