

NLRP3 Antibody (N-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8564A

Specification

NLRP3 Antibody (N-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	O96P20
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Antigen Region	65-91

NLRP3 Antibody (N-term) - Additional Information

Gene ID 114548

Other Names

NACHT, LRR and PYD domains-containing protein 3, Angiotensin/vasopressin receptor AII/AVP-like, Caterpillar protein 11, CLR11, Cold autoinflammatory syndrome 1 protein, Cryopyrin, PYRIN-containing APAF1-like protein 1, NLRP3, C1orf7, CIAS1, NALP3, PYPAF1

Target/Specificity

This NLRP3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 65-91 amino acids from the N-terminal region of human NLRP3.

Dilution

WB~~1:1000-1:2000

IHC-P~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

NLRP3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

NLRP3 Antibody (N-term) - Protein Information

Name NLRP3

Synonyms C1orf7, CIAS1, NALP3, PYPAF1

Function As the sensor component of the NLRP3 inflammasome, plays a crucial role in innate immunity and inflammation. In response to pathogens and other damage-associated signals, initiates the formation of the inflammasome polymeric complex, made of NLRP3, PYCARD and CASP1 (and possibly CASP4 and CASP5). Recruitment of proCASP1 to the inflammasome promotes its activation and CASP1-catalyzed IL1B and IL18 maturation and secretion in the extracellular milieu (PubMed:[28847925](#)). Activation of NLRP3 inflammasome is also required for HMGB1 secretion (PubMed:[22801494](#)). The active cytokines and HMGB1 stimulate inflammatory responses. Inflammasomes can also induce pyroptosis, an inflammatory form of programmed cell death. Under resting conditions, NLRP3 is autoinhibited. NLRP3 activation stimuli include extracellular ATP, reactive oxygen species, K(+) efflux, crystals of monosodium urate or cholesterol, amyloid-beta fibers, environmental or industrial particles and nanoparticles, cytosolic dsRNA, etc. However, it is unclear what constitutes the direct NLRP3 activator. Activation in presence of cytosolic dsRNA is mediated by DHX33 (PubMed:[23871209](#)). Independently of inflammasome activation, regulates the differentiation of T helper 2 (Th2) cells and has a role in Th2 cell-dependent asthma and tumor growth (By similarity). During Th2 differentiation, required for optimal IRF4 binding to IL4 promoter and for IRF4-dependent IL4 transcription. Binds to the consensus DNA sequence 5'-GRRGNGRGAG-3'. May also participate in the transcription of IL5, IL13, GATA3, CCR3, CCR4 and MAF (By similarity).

Cellular Location

Cytoplasm, cytosol. Inflammasome. Endoplasmic reticulum {ECO:0000250|UniProtKB:Q8R4B8}. Secreted. Nucleus {ECO:0000250|UniProtKB:Q8R4B8} Note=In macrophages, under resting conditions, mainly located in the cytosol, on the endoplasmic reticulum. After stimulation with inducers of the NLRP3 inflammasome, mitochondria redistribute in the vicinity of the endoplasmic reticulum in the perinuclear region, which results in colocalization of NLRP3 on the endoplasmic reticulum and PYCARD on mitochondria, allowing the activation of inflammasome assembly. After the induction of pyroptosis, inflammasome specks are released into the extracellular space where they can further promote IL1B processing and where they can be engulfed by macrophages. Phagocytosis induces lysosomal damage and inflammasome activation in the recipient cells (PubMed:24952504). In the Th2 subset of CD4(+) helper T-cells, mainly located in the nucleus. Nuclear localization depends upon KPNA2. In the Th1 subset of CD4(+) helper T-cells, mainly cytoplasmic (By similarity). {ECO:0000250|UniProtKB:Q8R4B8, ECO:0000269|PubMed:24952504}

Tissue Location

Predominantly expressed in macrophages. Also expressed in dendritic cells, B- and T-cells (at protein level) (PubMed:11786556) (PubMed:17164409). Expressed in LPS-treated granulocytes, but not in resting cells (at protein level) (PubMed:17164409). Expression in monocytes is very weak (at protein level) (PubMed:17164409). Expressed in stratified non-keratinizing squamous epithelium, including oral, esophageal and ectocervical mucosa and in the Hassall's corpuscles in the thymus. Also, detected in the stratified epithelium covering the bladder and ureter (transitional mucosa) (at protein level) (PubMed:17164409). Expressed in lung epithelial cells (at protein level) (PubMed:23229815). Expressed in chondrocytes (PubMed:12032915). Expressed at low levels in resting osteoblasts (PubMed:17907925).

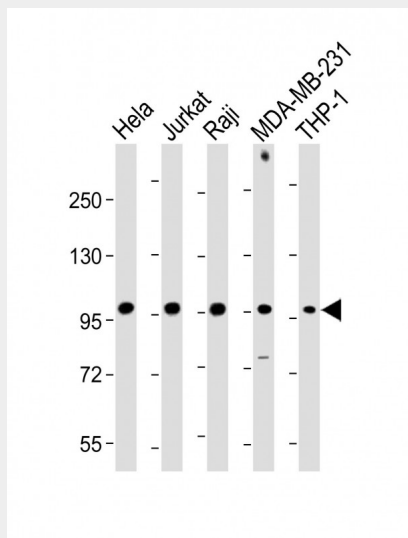
NLRP3 Antibody (N-term) - Protocols

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

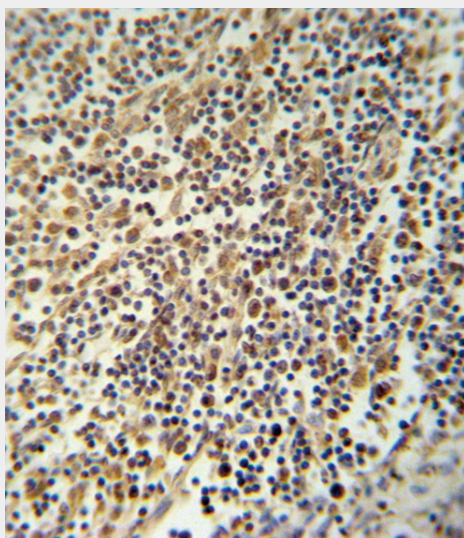
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)

- [Cell Culture](#)

NLRP3 Antibody (N-term) - Images



All lanes : Anti-NLRP3 Antibody (N-term) at 1:1000-1:2000 dilution Lane 1: HeLa whole cell lysate Lane 2: Jurkat whole cell lysate Lane 3: Raji whole cell lysate Lane 4: MDA-MB-231 whole cell lysate Lane 5: THP-1 whole cell lysate Lysates/proteins at 20 μ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 118 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



NLRP3 Antibody (N-term) (Cat. #AP8564a) immunohistochemistry analysis in formalin fixed and paraffin embedded human lymph tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the NLRP3 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

NLRP3 Antibody (N-term) - Background

NLRP3 is a pyrin-like protein containing a pyrin domain, a nucleotide-binding site (NBS) domain, and a leucine-rich repeat (LRR) motif. This protein interacts with the apoptosis-associated speck-like protein PYCARD/ASC, which contains a caspase recruitment domain, and is a member of the NALP3 inflammasome complex. This complex functions as an upstream activator of NF-kappaB signaling, and it plays a role in the regulation of inflammation, the immune response, and apoptosis.

NLRP3 Antibody (N-term) - References

Feldmann,J., et.al., Am. J. Hum. Genet. 71 (1), 198-203 (2002)

NLRP3 Antibody (N-term) - Citations

- [Exposure to environmental black carbon exacerbates nasal epithelial inflammation via the reactive oxygen species \(ROS\)-nucleotide-binding, oligomerization domain-like receptor family, pyrin domain containing 3 \(NLRP3\)-caspase-1-interleukin 1 \$\beta\$ \(IL-1 \$\beta\$ \) pathway](#)
- [Effects of Berberine on NLRP3 and IL-1 \$\beta\$ Expressions in Monocytic THP-1 Cells with Monosodium Urate Crystals-Induced Inflammation.](#)
- [Protective effects of catechin against monosodium urate-induced inflammation through the modulation of NLRP3 inflammasome activation.](#)