ARG40539
anti-NALP3 / Cryopyrin antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes NALP3 / Cryopyrin
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	NALP3 / Cryopyrin
Species	Human
Immunogen	Recombinant protein of Human NALP3 / Cryopyrin.
Conjugation	Un-conjugated
Alternate Names	MWS; FCAS; CLR1.1; CIAS1; FCU; AGTAVPRL; C1orf7; Caterpiller protein 1.1; PYRIN-containing APAF1-like protein 1; AVP; Angiotensin/vasopressin receptor AII/AVP-like; Cold autoinflammatory syndrome 1 protein; NALP3; AII; FCAS1; NACHT, LRR and PYD domains-containing protein 3; Cryopyrin; PYPAF1

Application Instructions

Application table

Application	Dilution
ICC/IF	1:50 - 1:200
IHC-P	1:50 - 1:200
WB	1:200 - 1:1000

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	Mouse thymus
Observed Size	120 kDa

Properties

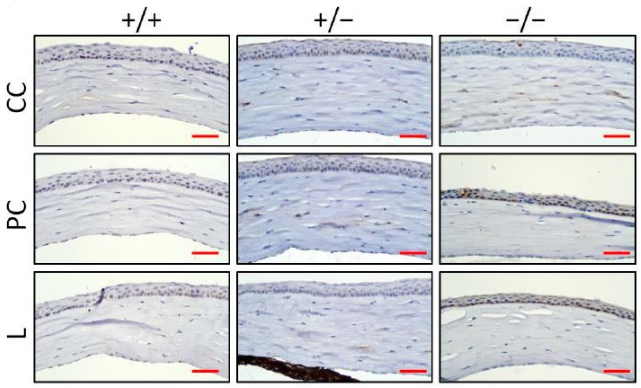
Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.3), 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw

	cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	NLRP3
Gene Full Name	NLR family, pyrin domain containing 3
Background	NALP3 gene encodes 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. Mutations in this gene are associated with familial cold autoinflammatory syndrome (FCAS), Muckle-Wells syndrome (MWS), chronic infantile neurological cutaneous and articular (CINCA) syndrome, and neonatal-onset multisystem inflammatory disease (NOMID). Multiple alternatively spliced transcript variants encoding distinct isoforms have been identified for this gene. Alternative 5' UTR structures are suggested by available data; however, insufficient evidence is available to determine if all of the represented 5' UTR splice patterns are biologically valid. [provided by RefSeq, Oct 2008]
Function	NALP3: 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. During Th2 differentiation, required for optimal IRF4 binding to IL4 promoter and for IRF4-dependent IL4 transcription. Binds to the consensus DNA sequence 5'-GRRGGNRGAG-3'. May also participate in the transcription of IL5, IL13, GATA3, CCR3, CCR4 and MAF. [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30331 NLRP3 Inflammasome Antibody Panel Related products: NALP3 antibodies; NALP3 ELISA Kits; NALP3 Duos / Panels; Anti-Rabbit IgG secondary antibodies; Related news: Exploring Antiviral Immune Response RIP1 activation and pathogenesis of NASH
Research Area	NLRP3 Inflammasome Study antibody
Calculated Mw	118 kDa
PTM	The disulfide bond in the pyrin domain might play a role in reactive oxygen species-mediated activation. Ubiquitinated; undergoes both 'Lys-48'- and 'Lys-63'-linked polyubiquitination. Ubiquitination does not lead to degradation, but inhibits inflammasome activation (By similarity). Deubiquitination is catalyzed by BRCC3 and associated with NLRP3 activation and inflammasome assembly. This process can be induced by the activation of Toll-like receptors (by LPS), through a non-transcriptional pathway dependent on the mitochondrial production of reactive oxygen species, and by ATP. [UniProt]
Cellular Localization	Cytoplasm, cytosol. Inflammasome. Endoplasmic reticulum. Secreted. Nucleus. Note=In macrophages, under resting conditions, mainly located in the cytosol, on the endoplasmic reticulum. [UniProt]

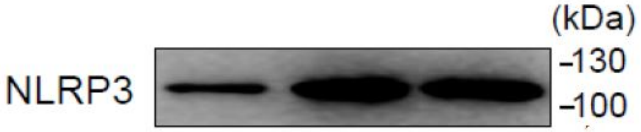
Images



ARG40539 anti-NALP3 / Cryopyrin antibody IHC-P image

Immunohistochemistry: Mouse cornea stained with ARG40539 anti-NALP3 / Cryopyrin antibody.

From Wu CY et al. Biology (2024), doi: 10.3390/biology13030133, Fig. 7. A.



ARG40539 anti-NALP3 / Cryopyrin antibody WB image

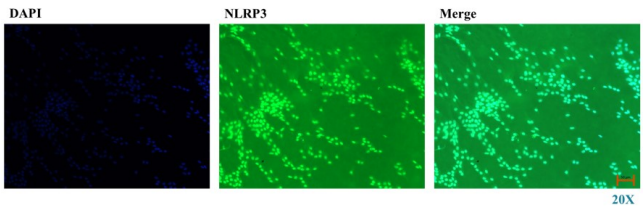
Western blot: hMDMs stained with ARG40539 anti-NALP3 / Cryopyrin antibody.

From Ding X et al. Nat Commun- (2021), doi: 10.1038/s41467-021-27034-9, Fig. S8. A.

ARG40539 anti-NALP3 / Cryopyrin antibody WB image

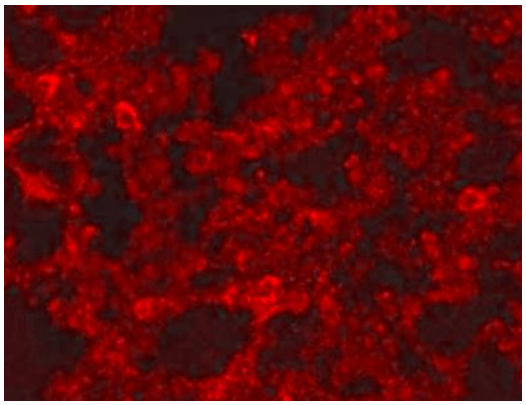
Western blot: Rat colonic tissue stained with ARG40539 anti-NALP3 / Cryopyrin antibody.

From Xue S et al. Dis Markers. (2022), doi: 10.1155/2022/2782112, Fig. 4. B.



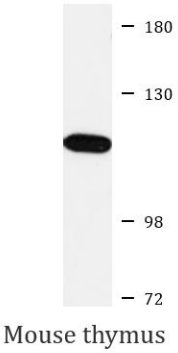
ARG40539 anti-NALP3 / Cryopyrin antibody ICC/IF image (Customer's Feedback)

Immunofluorescence:Humam conjunctival stained with ARG40539 anti-NALP3 / Cryopyrin antibody at 1:200 dilution and ARG54745 Goat anti-Rabbit IgG (H+L) antibody (FITC) at 1:500 dilution.



ARG40539 anti-NALP3 / Cryopyrin antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Mouse lung stained with ARG40539 anti-NALP3 / Cryopyrin antibody at 1:100 dilution.



ARG40539 anti-NALP3 / Cryopyrin antibody WB image

Western blot: 25 µg of Mouse thymus lysate stained with ARG40539 anti-NALP3 / Cryopyrin antibody at 1:1000 dilution.