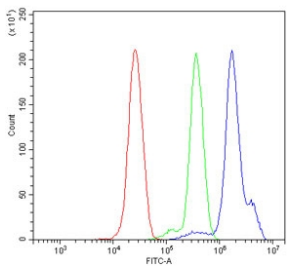
NALP3 Antibody / Innate Immune Signaling Marker (RQ6201)

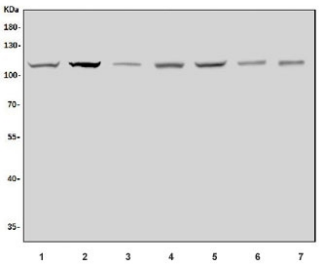
Catalog No.	Formulation	Size
RQ6201	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q96P20
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This NALP3 Antibody / Innate Immune Signaling Marker is available for research use only.



NALP3 Antibody ThP-1 FACS. Flow cytometry analysis of human ThP-1 cells stained with NALP3 Antibody (blue). Cells alone are shown in red and isotype control cells in green. The distinct fluorescence shift supports detection of endogenous NLRP3 / NALP3 / Cryopyrin expression in ThP-1 monocytic cells, consistent with the established role of this innate immune signaling protein in inflammasome activation, inflammatory regulation, cytokine maturation, and pyroptosis-associated cellular pathways.



NALP3 Antibody Multi-Species WB. Western blot analysis of 1) human HeLa, 2) human U-87 MG, 3) rat spleen, 4) rat PC-12, 5) mouse thymus, 6) mouse lung, and 7) mouse spleen lysates using NALP3 Antibody. Bands are detected near approximately 110-120 kDa across multiple human, rat, and mouse samples, consistent with the predicted molecular weight of NLRP3 / NALP3 / Cryopyrin, an innate immune signaling protein involved in inflammasome activation, inflammatory regulation, cytokine maturation, and pyroptosis-associated cellular pathways.

Description

NOD-like receptor family pyrin domain containing 3 (NLRP3), also known as NALP3 or Cryopyrin, is an intracellular pattern recognition receptor involved in innate immune signaling, inflammasome activation, and inflammatory response regulation. NALP3 Antibody / Innate Immune Signaling Marker is suitable for investigations involving macrophage-associated inflammatory pathways, cytokine maturation-associated signaling, inflammasome biology, and pyroptosis-associated cellular mechanisms. NLRP3 functions primarily within the cytoplasm, where it contributes to assembly of inflammasome signaling complexes in response to pathogen-associated and cellular stress-associated danger signals.

NALP3 antibody, also referred to as NLRP3 antibody, Cryopyrin antibody, NOD-like receptor family pyrin domain containing 3 antibody, and Inflammasome signaling protein antibody in the literature, recognizes a central innate immune signaling protein involved in activation of inflammatory regulatory pathways. Following activation, NLRP3 promotes recruitment of ASC/PYCARD and caspase-1 to inflammasome complexes, resulting in maturation of inflammatory cytokines including IL1B and IL18. Through these signaling mechanisms, NLRP3 contributes to regulation of innate immune activation and inflammatory cellular responses.

Innate immune signaling proteins such as NLRP3 participate in pathways controlling recognition of pathogen-associated molecular patterns, sterile injury-associated stress signals, and inflammatory danger-associated cellular environments. NLRP3-associated signaling has attracted substantial interest in studies involving autoinflammatory syndromes, infection-associated immune regulation, metabolic inflammation, neuroinflammatory disease, and macrophage-associated inflammatory responses. Because inflammasome activation influences multiple downstream cytokine pathways, NLRP3 remains highly relevant for investigations involving inflammatory signaling and innate immune-associated cellular biology.

NLRP3 activation has additionally been associated with oxidative stress signaling, mitochondrial dysfunction pathways, lysosomal injury responses, ATP-responsive inflammatory signaling, and pyroptosis-associated cellular mechanisms. Through these interconnected pathways, NLRP3 contributes to broader inflammatory regulatory systems controlling cytokine release and innate immune cellular adaptation. Altered NLRP3-associated signaling has therefore been implicated in a wide range of inflammatory and immune-associated disease states.

Western blot and flow cytometry analyses support detection of endogenous NLRP3 expression in immune-associated cell populations, consistent with the expected intracellular localization pattern of this inflammasome-associated signaling protein. The combined validation profile supports use of this rabbit polyclonal antibody for investigations involving innate immune activation, inflammasome signaling pathways, macrophage inflammatory responses, and cytokine maturation-associated cellular regulation.

An antibody targeting NALP3 can therefore support studies involving inflammasome-associated signaling pathways, innate immune regulation, inflammatory cytokine maturation, pyroptosis-associated cellular mechanisms, and macrophage-associated inflammatory biology.

Explore our NLRP3 Antibody / Inflammasome Marker page for additional validation data and research applications involving innate immune signaling, inflammasome activation, cytokine maturation, and pyroptosis-associated cellular pathways.

Application Notes

Optimal dilution of the NALP3 Antibody / Innate Immune Signaling Marker should be determined by the researcher.

Immunogen

A human recombinant partial protein (amino acids D812-S1035) was used as the immunogen for the NALP3 antibody.

Storage

After reconstitution, the NALP3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

NALP3 antibody, NLRP3 antibody, Cryopyrin antibody, NOD-like receptor family pyrin domain containing 3 antibody, Inflammasome signaling protein antibody

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