abcam

Product datasheet

Anti-NLRP3 antibody ab4207

8 Abreviews 110 References 4 Images

Overview

Product name	Anti-NLRP3 antibody
Description	Goat polyclonal to NLRP3
Host species	Goat
Tested applications	**Suitable for:** Flow Cyt (Intra), ICC/IF, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Rat, Cow
Immunogen	Synthetic peptide corresponding to Human NLRP3 aa 1024-1036 (C terminal). Sequence: C-EKPELTVVFEPSW Database link: **Q96P20-1** Run BLAST with Run BLAST with
Positive control	Flow Cyt (intra): U937 cells. WB: THP-1 cells ICC/IF: U937cells
General notes	No signal has been obtained in Western blot but low background has observed in Daudi, A431, Jurkat, U937 and MOLT-4 lysates at up to 1µg/ml. We would appreciate any feedback from people in the field. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.30 Preservative: 0.02% Sodium azide

	Constituents: 0.5% BSA, Tris buffered saline
Purity	Immunogen affinity purified
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab4207 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		Use a concentration of 10 µg/ml. **ab37373** - Goat polyclonal IgG, is suitable for use as an isotype control with this antibody.
ICC/IF	★★★★☆ (3)	Use a concentration of 10 µg/ml.
WB	★★☆☆☆ (2)	1/1000. Predicted molecular weight: 118 kDa.

Target

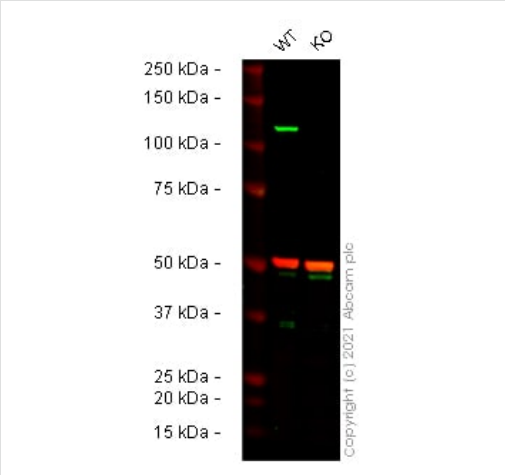
Function May function as an inducer of apoptosis. Interacts selectively with ASC and this complex may function as an upstream activator of NF-kappa-B signaling. Inhibits TNF-alpha induced activation and nuclear translocation of RELA/NF-KB p65. Also inhibits transcriptional activity of RELA. Activates caspase-1 in response to a number of triggers including bacterial or viral infection which leads to processing and release of IL1B and IL18.

Tissue specificity Expressed in blood leukocytes. Strongly expressed in polymorphonuclear cells and osteoblasts. Undetectable or expressed at a lower magnitude in B- and T-lymphoblasts, respectively. High level of expression detected in chondrocytes. Detected in non-keratinizing epithelia of oropharynx, esophagus and ectocervix and in the urothelial layer of the bladder.

Involvement in disease Defects in NLRP3 are the cause of familial cold autoinflammatory syndrome type 1 (FCAS1) [MIM:120100]; also known as familial cold urticaria. FCAS are rare autosomal dominant systemic inflammatory diseases characterized by episodes of rash, arthralgia, fever and conjunctivitis after generalized exposure to cold.
Defects in NLRP3 are a cause of Muckle-Wells syndrome (MWS) [MIM:191900]; also known as urticaria-deafness-amyloidosis syndrome. MWS is a hereditary periodic fever syndrome characterized by fever, chronic recurrent urticaria, arthralgias, progressive sensorineural deafness, and reactive renal amyloidosis. The disease may be severe if generalized amyloidosis occurs.
Defects in NLRP3 are the cause of chronic infantile neurologic cutaneous and articular syndrome (CINCA) [MIM:607115]; also known as neonatal onset multisystem inflammatory disease (NOMID). CINCA is a rare congenital inflammatory disorder characterized by a triad of neonatal onset of cutaneous symptoms, chronic meningitis and joint manifestations with recurrent fever and inflammation.

Sequence similarities	Belongs to the NLRP family. Contains 1 DAPIN domain. Contains 9 LRR (leucine-rich) repeats. Contains 1 NACHT domain.
Cellular localization	Cytoplasm.

Images



Western blot - Anti-NLRP3 antibody (ab4207)

All lanes : Anti-NLRP3 antibody (ab4207) at 1/1000 dilution

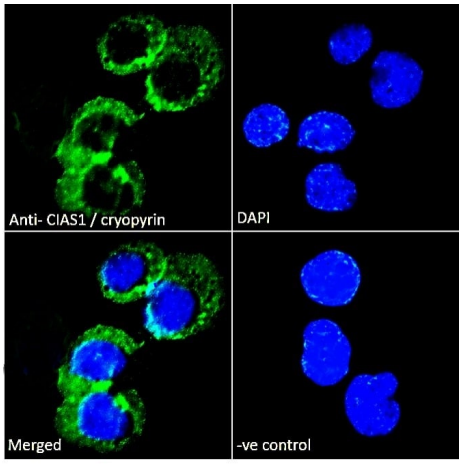
Lane 1 : Wild-type THP-1 cell lysate
Lane 2 : NLRP3 knockout THP-1 cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

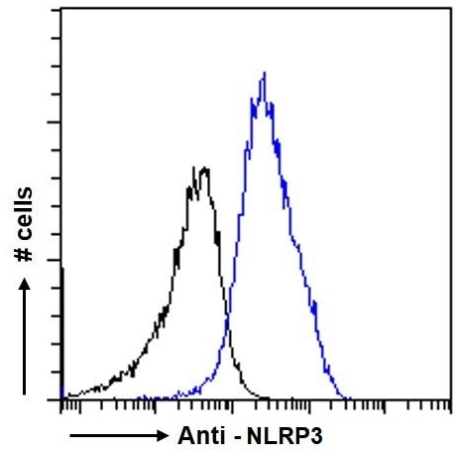
Predicted band size: 118 kDa
Observed band size: 118 kDa

False colour image of Western blot: Anti-NLRP3 antibody staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (**ab7291**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab4207 was shown to bind specifically to NLRP3. A band was observed at 118 kDa in wild-type THP-1 cell lysates with no signal observed at this size in NLRP3 knockout cell line **ab280063** (knockout cell lysate **ab280122**). To generate this image, wild-type and NLRP3 knockout THP-1 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Donkey anti-Goat IgG H&L (IRDye® 800CW) preabsorbed (**ab216775**) and Donkey anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216778**) at 1/20000 dilution.



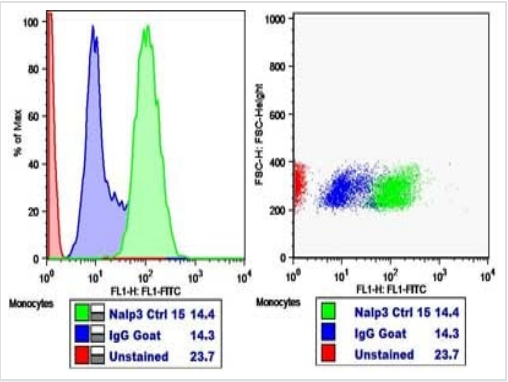
Immunocytochemistry/ Immunofluorescence - Anti-NLRP3 antibody (ab4207)

Immunocytochemistry/Immunofluorescence analysis of paraformaldehyde fixed U937 cells immobilized on ShifixTM coverslip, permeabilized with 0.15% Triton. Primary incubation 1hr (10µg/mL) followed by Alexa Fluor 488 secondary antibody (2µg/mL), showing membrane and cytoplasmic staining. The nuclear stain is DAPI (blue).Negative control: Unimmunized goat IgG (10µg/mL) followed by Alexa Fluor 488 secondary antibody (2µg/mL).



Flow Cytometry (Intracellular) - Anti-NLRP3 antibody (ab4207)

Flow cytometric analysis of paraformaldehyde fixed U937 cells (blue line), permeabilized with 0.5% Triton. Primary incubation with ab4207 was 1hr (10ug/ml) followed by Alexa Fluor® 488 secondary antibody (1ug/ml). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor® 488 secondary antibody.



Flow Cytometry (Intracellular) - Anti-NLRP3 antibody (ab4207)

This image is courtesy of an Abreview submitted by Mahesh Shivananjappa.

ab4207 staining NLRP3 in the Human White Blood Cells (Mixed Population) by Flow Cytometry. WBC were isolated spinning Blood on Ficoll Gradient after removal of RBC's and permeabilized with 0.1% Triton-X100 in 2% BSA for 15 minutes. The sample was incubated with the primary antibody (1/100 in PBS + 2% BSA in PBS) for 16 hours at 4°C. An Alexa Flour® 488 Donkey Anti Goat IgG (H+L) (1/250) was used as the secondary antibody.
Gating Strategy: Monocytes

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors