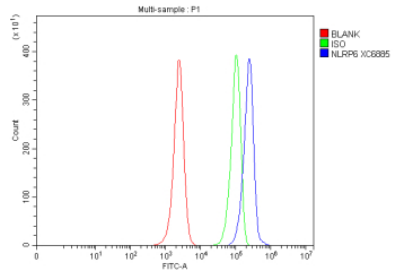
NLRP6 Antibody / NALP6 (FY12195)

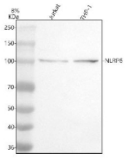
Catalog No.	Formulation	Size
FY12195	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P59044
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NLRP6 antibody is available for research use only.



Flow Cytometry analysis of HL-60 cells using anti-NLRP6 antibody. Overlay histogram showing HL-60 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-NLRP6 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of NLRP6 using anti-NLRP6 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Jurkat whole cell lysates, Lane 2: human THP-1 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NLRP6 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. The expected band size for NLRP6 is at 99 kDa.

Description

NLRP6 antibody detects NLR family pyrin domain-containing protein 6, encoded by the NLRP6 gene on chromosome 11p15.4. NLRP6 antibody is widely used to study innate immunity, inflammasome biology, and gut homeostasis. NLRP6 belongs to the Nod-like receptor (NLR) family, which detects microbial components and danger signals in the cytoplasm. It forms an inflammasome complex with ASC and caspase-1, leading to activation of IL-1b and IL-18. NLRP6 is highly expressed in intestinal epithelial cells, liver, and immune cells, positioning it as a critical regulator of mucosal defense and inflammation.

Structurally, NLRP6 contains an N-terminal pyrin domain (PYD), a central nucleotide-binding domain (NACHT), and C-terminal leucine-rich repeats (LRRs). The PYD interacts with ASC, enabling inflammasome assembly, while the NACHT domain mediates oligomerization and ATP-dependent activation. These structural motifs are conserved across the NLR family and ensure proper inflammasome formation in response to stimuli.

Functionally, NLRP6 contributes to host defense and microbiota regulation. It mediates inflammasome activation, resulting in caspase-1 activation and processing of IL-1b and IL-18. NLRP6 also regulates secretion of antimicrobial peptides and maintains intestinal barrier integrity. Deficiency of NLRP6 leads to altered gut microbiota composition, increased susceptibility to colitis, and impaired clearance of pathogens. Researchers use NLRP6 antibody to investigate inflammasome biology, gut-immune interactions, and host defense mechanisms.

Clinically, NLRP6 is associated with inflammatory diseases, infection, and cancer. Reduced NLRP6 expression is linked to inflammatory bowel disease, including Crohn's disease and ulcerative colitis. Dysregulation also contributes to liver diseases such as steatohepatitis. In cancer, NLRP6 has context-dependent roles, either promoting tumor suppression by maintaining homeostasis or contributing to tumorigenesis through chronic inflammation. NSJ Bioreagents offers NLRP6 antibody for studies in immunology, microbiology, and inflammation biology.

Experimentally, NLRP6 antibody is applied in western blotting to detect the ~103 kDa protein, in immunohistochemistry to study gut and liver expression, and in immunofluorescence microscopy to visualize inflammasome assembly. Immunoprecipitation with NLRP6 antibody enables isolation of inflammasome complexes for mechanistic analysis.

Application Notes

Optimal dilution of the NLRP6 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NLRP6 recombinant protein (Position: R14-E887) was used as the immunogen for the NLRP6 antibody.

Storage

After reconstitution, the NLRP6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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