10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Mouse Nlrp6 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16660B

Product Information

Application	IHC-P-Leica, WB, E
Primary Accession	Q91WS2
Other Accession	Q63035
Reactivity	Human, Rat, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36346
Calculated MW	97402
Antigen Region	343-372

Additional Information

Gene ID	101613
Other Names	NACHT, LRR and PYD domains-containing protein 6, Angiotensin II/vasopressin receptor, PYRIN-containing APAF1-like protein 5-like, Nlrp6, Nalp6, Pypaf5
Target/Specificity	This Mouse Nlrp6 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 343-372 amino acids from the Central region of mouse Nlrp6.
Dilution	IHC-P-Leica~~1:500 WB~~1:1000 E~~Use at an assay dependent concentration.
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	Mouse Nlrp6 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Nlrp6 {ECO:0000303|PubMed:21593405, ECO:0000312|MGI:MGI:2141990}

Function

Acts as the sensor component of the NLRP6 inflammasome, which mediates inflammasome activation in response to various pathogen- associated signals, leading to maturation and secretion of IL1B and IL18 (PubMed:21593405, PubMed:30392956, PubMed:32424362, PubMed:34678144). Inflammasomes are supramolecular complexes that assemble in the cytosol in response to pathogens and other damage- associated signals and play critical roles in innate immunity and inflammation (PubMed:30392956). Acts as a recognition receptor (PRR): recognizes and binds specific pathogens and other damage-associated signals, such as lipoteichoic acid (LTA), a cell-wall component of Gram-positive bacteria, or double stranded RNA (dsRNA) (PubMed:26494172, PubMed:30392956, PubMed:34678144). May also recognize and bind lipopolysaccharide (LPS), a major component of the outer membrane of Gram-negative bacteria; however, LPS is probably not a major activator of the NLRP6 inflammasome (PubMed:34678144). Following LTA- or dsRNA-binding, NLRP6 undergoes liquid-liquid phase separation (LLPS), enhancing multivalent interactions, an essential step for the formation of the NLRP6 inflammasome polymeric complex (PubMed:34678144). The NLRP6 inflammasome acts by promoting recruitment of effector pro-inflammatory caspases (CASP1 and/or CASP4) that catalyze maturation and secretion of IL1B and IL18 in the extracellular milieu (PubMed:30392956). The NLRP6 inflammasome plays a central role in the maintenance of epithelial integrity and host defense against microbial infections in the intestine (PubMed:21565393, PubMed:22763455, PubMed:23696660, PubMed:26638072, PubMed:28445725, PubMed:30392956). Required to restrict infection against Gram-positive bacteria by recognizing lipoteichoic acid (LTA), leading to recruitment of CASP4 and CASP1, and subsequent maturation and secretion of IL1B and IL18 (PubMed:30392956). Involved in intestinal antiviral innate immunity together with DHX15: recognizes and binds viral dsRNA to restrict infection by enteric viruses through the interferon pathway and GSDMD-dependent release of IL18 (PubMed:26494172, PubMed:34678144). Required to prevent infection by the apicomplexan parasite C.tyzzeri in enterocytes by promoting GSDMD-dependent release of IL18 (PubMed:33372132). The NLRP6 inflammasome may also regulate the gut microbiota composition by acting as a sensor of microbiota-associated metabolites to form a PYCARD/ASC-dependent inflammasome for downstream IL18 release and secretion of antimicrobial peptides (PubMed:21565393, PubMed:22763455, PubMed:26638072, PubMed:33617596). Its role in the regulation of the gut microbiota composition is however subject to discussion (PubMed:28801232, PubMed:29281815, PubMed:29281837). Essential for gut mucosal self-renewal and proliferation (PubMed:21543645, PubMed:21565393, PubMed:21593405). Regulate mucus secretion in an inflammasome- and autophagy-dependent manner to prevent invasion by enteric bacteria (PubMed:24581500, PubMed:27339979). During systemic bacterial infections, the NLRP6 inflammasome negatively regulates neutrophil recruitment and neutrophil extracellular traps (NETs) formation (PubMed:22763455, PubMed:30248149, PubMed:33230225, PubMed:33918100). May promote peripheral nerve recovery following injury via an inflammasome-independent mechanism (PubMed:26253422).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:Q63035}. Inflammasome [Isoform 2]: Cytoplasm {ECO:0000250|UniProtKB:Q63035}. Cell membrane {ECO:0000250|UniProtKB:Q63035}. Note=Predominantly expressed in the cell membrane. {ECO:0000250|UniProtKB:Q63035}

Tissue Location

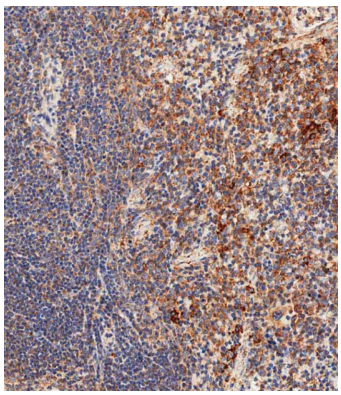
Highly expressed in the gastrointestinal tract, predominantly in colonic myofibroblasts and in colonic epithelial and endothelial cells. Within the intestinal mucosa, highly expressed by goblet cells. Also expressed in hepatocytes and in immune cells, including CD4(+) and CD8(+) T-cells, dendritic cells, mastocytes and peritoneal macrophages, as well as in lung,

kidney, bladder and gonads

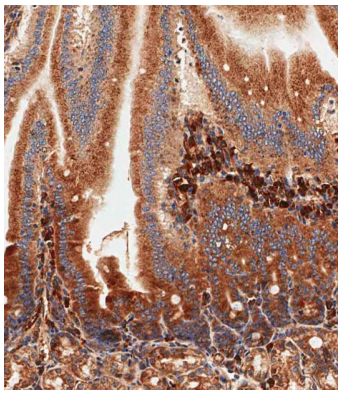
Background

Nlrp6 may mediate activation of CASP1 via ASC and promote activation of NF-kappa-B (By similarity).

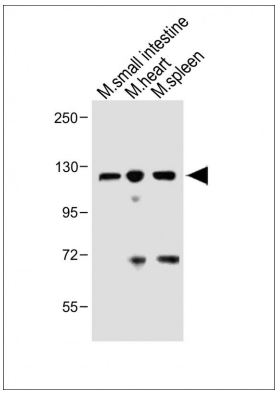
Images



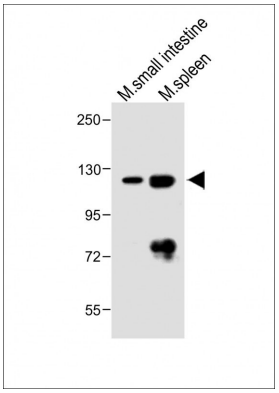
Immunohistochemical analysis of paraffin-embedded mouse spleen tissue using AP16660B performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



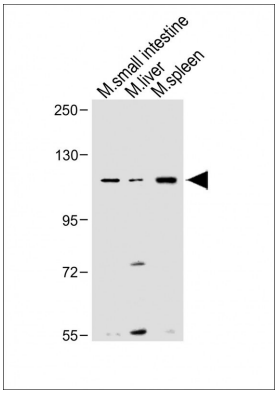
Immunohistochemical analysis of paraffin-embedded mouse small intestine tissue using AP16660B performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



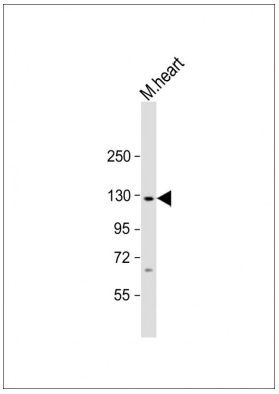
All lanes : Anti-Mouse Nlrp6 Antibody (Center) at 1:500 dilution Lane 1: Mouse small intestine lysate Lane 2: Mouse heart lysate Lane 3: Mouse spleen lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 97 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



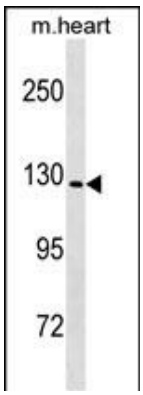
All lanes : Anti-Mouse Nlrp6 Antibody (Center) at 1:1000 dilution Lane 1: Mouse small intestine lysate Lane 2: Mouse spleen lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 97 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-Mouse Nlrp6 Antibody (Center) at 1:500 dilution Lane 1: Mouse small intestine lysate Lane 2: Mouse liver lysate Lane 3: Mouse spleen lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 97 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-NLRP6 Antibody at 1:2000 dilution + mouse heart lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 97 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Mouse Nlrp6 Antibody (Cat. #AP16660b) western blot analysis in mouse heart tissue lysates (35ug/lane).This demonstrates the Nlrp6 antibody detected the Nlrp6 protein (arrow).