NLRP1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	NLRP1, Polyclonal Antibody
Full Product Name	NLRP1 Antibody
Product Gene Name	anti-NLRP1 antibody
Product Synonym Names	NLRP1 Antibody - N-terminal; CARD 7; CARD7; Caspase recruitment domain protein 7; Caspase recruitment domain-containing protein 7; CLR17.1; Death effector filament forming Ced 4 like apoptosis protein; Death effector filament-forming ced-4-like apoptosis protein; DEFCAP; DEFCAP L/S; DKFZp586O1822; KIAA0926; LRR and PYD domains-containing protein 1; NAC alpha/beta/gamma/delta; NAC; NACHT; NACHT leucine rich repeat and PYD containing 1; NACHT leucine rich repeat and PYD pyrin domain containing 1; NACHT leucine rich repeat and pyrin domain containing 1; NACHT LRR and PYD containing protein 1; NALP 1; NALP1; NALP1_HUMAN; NLR family pyrin domain containing 1; NLRP 1; NLRP1; NLRP1 protein; Nucleotide binding domain and caspase recruitment domain; Nucleotide binding oligomerization domain leucine rich repeat and pyrin domain containing 1; Nucleotide-binding domain and caspase recruitment domain; PP 1044; PP1044;
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin (Thermo Fisher Scientific).
Concentration	1mg/ml (lot specific)
Specificity	NLRP1 Antibody detects endogenous levels of NLRP1.
Preparation and Storage	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.Store at -20 degree C. Stable for 12 months from date of receipt.
Antibody/Peptide Pairs	NLRP1 peptide (MBS9621890) is used for blocking the activity of NLRP1 antibody (MBS9611937)
Molecular Weight	Observed Mol.Wt.: 155 kDa. Predicted Mol.Wt.: 166kDa.
OMIM	gene 615225
3D Structure	ModBase 3D Structure for Q9C000
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Immunogen	A synthesized peptide derived from human NLRP1.
Fragment	Fab fragment
Conjugation	Unconjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.Store at -20 °C. Stable for 12 months from date of receipt.
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-NLRP1 antibody	Western Blot (WB)

Application Notes for anti-NLRP1 antibody	WB 1:500-1:2000
Related Product Information for anti-NLRP1 antibody	As the sensor component of the NLRP1 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 NLRP1, CASP1, and possibly PYCARD. Recruitment of proCASP1 to the inflammasome promotes its activation and CASP1-catalyzed IL1B and IL18 maturation and secretion in the extracellular milieu. Activation of NLRP1 inflammasome is also required for HMGB1 secretion. The active cytokines and HMGB1 stimulate inflammatory responses. Inflammasomes can also induce pyroptosis, an inflammatory form of programmed cell death (PubMed:22665479, PubMed:17418785). May be activated by muramyl dipeptide (MDP), a fragment of bacterial peptidoglycan, in a NOD2-dependent manner (PubMed:18511561). Contrary to its mouse ortholog, not activated by Bacillus anthracis lethal toxin (PubMed:19651869). It is unclear whether isoform 2 is involved in inflammasome formation. It is not cleaved within the FIIND domain, does not assemble into specks, nor promote IL1B release (PubMed:22665479). However, in an vitro cell-free system, it has been shown to be activated by MDP (PubMed:17349957). Binds ATP (PubMed:11113115, PubMed:15212762). Similarity: The CARD domain, rather than the pyrin domain, is involved in the interaction with PYCARD, CASP1 and CASP5.The leucine-rich repeat (LRR) domain may be involved in autoinhibition in the absence of activating signal, possibly through intramolecular interaction with the NACHT domain.The FIIND (domain with function to find) region is involved in homomerization, but not in CASP1-binding (By similarity). Autocatalytic cleavage in this region occurs constitutively, prior to activation signals, and is required for inflammasome activity (IL1B release), possibly by facilitating CASP1 binding. Both N- and C-terminal fragments remain associated (PubMed:22665479, PubMed:22087307).Belongs to the NLRP family.
Other Notes	Small volumes of anti-NLRP1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for NLRP1 purchase	MBS9611937 is an antibody targeting NLRP1. Also known as NLRP1 Antibody. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for NLRP1. It may not necessarily be applicable to this product.

NCBI GI #	11096303
NCBI GeneID	22861
NCBI Accession #	AAG30288
UniProt Primary Accession #	Q9C000
UniProt Related Accession #	Q9C000
NCBI Official Full Name	NALP1
NCBI Official Synonym Full Names	NLR family pyrin domain containing 1
NCBI Official Symbol	NLRP1
NCBI Official Synonym Symbols	NAC; MSPC; AIADK; CARD7; CIDED; NALP1; SLEV1; DEFCAP; PP1044; VAMAS1; CLR17.1; DEFCAP-L/S
UniProt Protein Name	NACHT, LRR and PYD domains-containing protein 1
UniProt Synonym Protein Names	Caspase recruitment domain-containing protein 7; Death effector filament-forming ced-4-like apoptosis protein; Nucleotide-binding domain and caspase recruitment domain
Protein Family	NACHT, LRR and PYD domains-containing protein
UniProt Gene Name	NLRP1
UniProt Synonym Gene Names	CARD7; DEFCAP; KIAA0926; NAC; NALP1
UniProt Entry Name	NALP1_HUMAN
NCBI Protein Information	NACHT, LRR and PYD domains-containing protein 1

NCBI Summary for NLRP1	This gene encodes a member of the Ced-4 family of apoptosis proteins. Ced-family members contain a caspase recruitment domain (CARD) and are known to be key mediators of programmed cell death. The encoded protein contains a distinct N-terminal pyrin-like motif, which is possibly involved in protein-protein interactions. This protein interacts strongly with caspase 2 and weakly with caspase 9. Overexpression of this gene was demonstrated to induce apoptosis in cells. Multiple alternatively spliced transcript variants encoding distinct isoforms have been found for this gene, but the biological validity of some variants has not been determined. [provided by RefSeq, Jul 2008]
UniProt Comments for NLRP1	NALP1: Able to form cytoplasmic structures termed death effector filaments. Enhances APAF1 and cytochrome c-dependent activation of pro-caspase-9 and consecutive apoptosis. Stimulates apoptosis through activation of caspase-3. Involved in activation of caspase-1 and caspase-5 as part of the NALP1 inflammasome complex which leads to processing and release of IL1B and IL18. Binds ATP. Interacts strongly with caspase-2, weakly with caspase-9 and with APAF1 in a cytochrome c-inducible way, leading to the formation of an apoptosome. This interaction may be ATP-dependent. Part of the NALP1 inflammasome complex which is involved in activation of caspase-1 and caspase-5, leading to processing of IL1B and IL18. The complex is activated by bacterial muramyl dipeptide which triggers ATP-binding and oligomerization of NALP1. Widely expressed. Isoform 1 and isoform 2 are expressed in peripheral blood leukocytes and chronic myelogenous leukemia cell line K-562, followed by thymus, spleen and heart. Also detected in brain, lung, placenta, small intestine, colon, kidney, liver, muscle, testis and epithelial cells. Absent from hematopoietic progenitor cells but expressed upon differentiation of cells into granulocytes and, to a lesser extent, monocytes. In peripheral blood cells, highest levels are found in T-lymphocytes, granulocytes and monocytes. Expression is significantly increased in bone marrow blast cells of some acute leukemia patients but not in solid tumors. Belongs to the NLRP family. 4 isoforms of the human protein are produced by alternative splicing. Protein type: Apoptosis Chromosomal Location of Human Ortholog: 17p13.2 Cellular Component: intracellular; nucleus; cytosol Molecular Function: protein domain specific binding; protein binding; enzyme binding; caspase activator activity; ATP binding Biological Process: caspase activation; neuron apoptosis; apoptosis; response to muramyl dipeptide; regulation of inflammatory response; defense response to bacterium; innate immune response; positive regulation of interleukin-1 beta secretion Disease: Vitiligo-associated Multiple Autoimmune Disease Susceptibility 1; Corneal Intraepithelial Dyskeratosis And Ectodermal Dysplasia
Research Articles on NLRP1	**1.** the results provide a unified mechanism for NLRP1B activation by diverse pathogen-encoded enzymatic activities.
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