

NOD1 Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11805b

Specification

NOD1 Antibody (C-term) - Product Information

Application	IHC-P-Leica, WB,E
Primary Accession	O9Y239
Other Accession	NP_006083.1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	923-951

NOD1 Antibody (C-term) - Additional Information

Gene ID 10392

Other Names

Nucleotide-binding oligomerization domain-containing protein 1, Caspase recruitment domain-containing protein 4, NOD1, CARD4

Target/Specificity

This NOD1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 923-951 amino acids from the C-terminal region of human NOD1.

Dilution

IHC-P-Leica~~1:500

WB~~1:2000

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

NOD1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

NOD1 Antibody (C-term) - Protein Information

Name NOD1 {ECO:0000303|PubMed:10329646, ECO:0000312|HGNC:HGNC:16390}

Function Pattern recognition receptor (PRR) that detects bacterial peptidoglycan fragments and other danger signals and thus participates in both innate and adaptive immune responses (PubMed:[11058605](#), PubMed:[12791997](#), PubMed:[12796777](#), PubMed:[15044951](#), PubMed:[16172124](#), PubMed:[19043560](#), PubMed:[22672233](#), PubMed:[27099311](#)). Specifically recognizes and binds gamma-D-glutamyl-meso-diaminopimelic acid (iE- DAP), a dipeptide present in peptidoglycan of Gram-negative bacteria (PubMed:[12791997](#), PubMed:[12796777](#), PubMed:[12871942](#), PubMed:[16172124](#), PubMed:[16211083](#)). Preferentially binds iE-DAP in tripeptide-containing muropeptides (MurNAc-TriDAP or TriDAP) (PubMed:[16211083](#)). Ligand binding triggers oligomerization that facilitates the binding and subsequent activation of the proximal adapter receptor-interacting RIPK2 (PubMed:[12791997](#), PubMed:[12796777](#), PubMed:[17054981](#)). Following recruitment, RIPK2 undergoes 'Met-1'- (linear) and 'Lys-63'-linked polyubiquitination by E3 ubiquitin-protein ligases XIAP, BIRC2, BIRC3 and the LUBAC complex, becoming a scaffolding protein for downstream effectors, triggering activation of the NF-kappa-B and MAP kinases signaling (PubMed:[10880512](#), PubMed:[12791997](#), PubMed:[19043560](#)). This in turn leads to the transcriptional activation of hundreds of genes involved in immune response (PubMed:[10880512](#), PubMed:[19043560](#)). Also acts as a regulator of antiviral response elicited by dsRNA and the expression of RLR pathway members by targeting IFIH1 and TRAF3 to modulate the formation of IFIH1-MAVS and TRAF3-MAVS complexes leading to increased transcription of type I IFNs (PubMed:[32169843](#)). Also acts as a regulator of autophagy via its interaction with ATG16L1, possibly by recruiting ATG16L1 at the site of bacterial entry (By similarity). Besides recognizing pathogens, also involved in the endoplasmic reticulum stress response: acts by sensing and binding to the cytosolic metabolite sphingosine-1-phosphate generated in response to endoplasmic reticulum stress, initiating an inflammation process that leads to activation of the NF-kappa-B and MAP kinases signaling (PubMed:[27007849](#), PubMed:[33942347](#)). In addition, plays a role in insulin trafficking in beta cells in a cell-autonomous manner (By similarity). Mechanistically, upon recognizing cognate ligands, NOD1 and RIPK2 localize to insulin vesicles where they recruit RAB1A to direct insulin trafficking through the cytoplasm (By similarity).

Cellular Location

Cell membrane; Lipid-anchor. Apical cell membrane. Basolateral cell membrane. Cytoplasm. Note=Detected in the cytoplasm and at the cell membrane (PubMed:[31649195](#)). Following bacterial infection, localizes to bacterial entry sites in the cell membrane (PubMed:[31649195](#)). Recruited to the basolateral and apical membranes in polarized epithelial cells (PubMed:[19043560](#))

Tissue Location

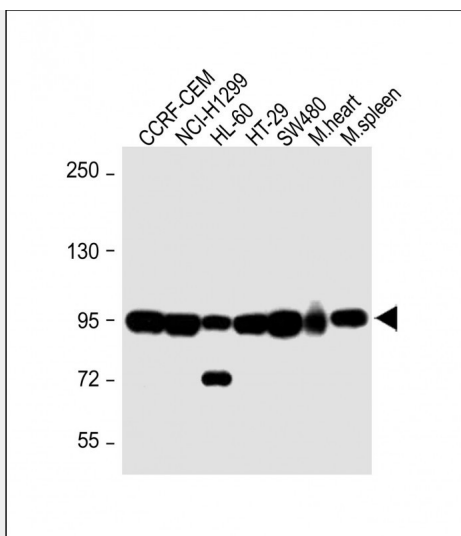
Highly expressed in adult heart, skeletal muscle, pancreas, spleen and ovary (PubMed:[10224040](#)). Also detected in placenta, lung, liver, kidney, thymus, testis, small intestine and colon (PubMed:[10224040](#)).

NOD1 Antibody (C-term) - Protocols

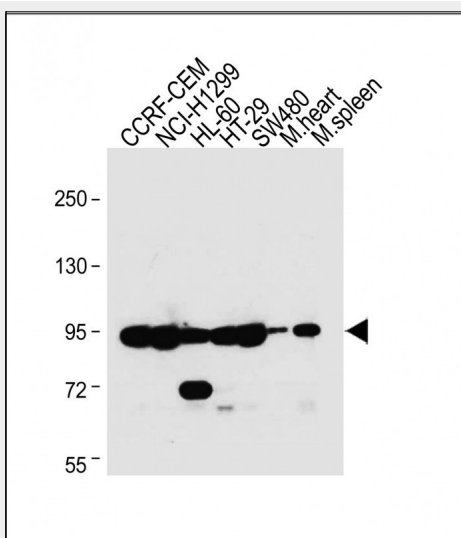
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

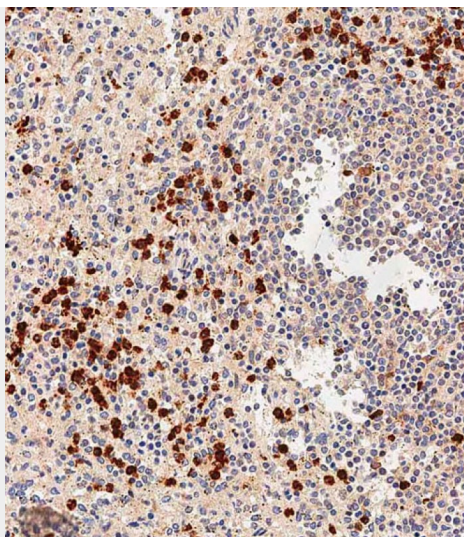
NOD1 Antibody (C-term) - Images



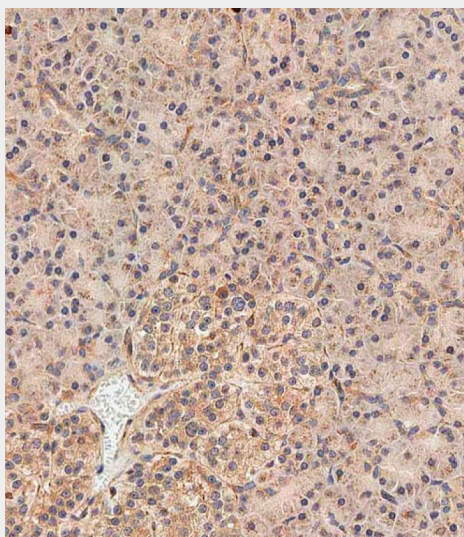
All lanes : Anti-NOD1 Antibody (C-term) at 1:1000 dilution Lane 1: CCRF-CEM whole cell lysate Lane 2: NCI-H1299 whole cell lysate Lane 3: HL-60 whole cell lysate Lane 4: HT-29 whole cell lysate Lane 5: SW480 whole cell lysate Lane 6: Mouse heart lysate Lane 7: Mouse spleen lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 108 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-NOD1 Antibody (C-term) at 1:2000 dilution Lane 1: CCRF-CEM whole cell lysate Lane 2: NCI-H1299 whole cell lysate Lane 3: HL-60 whole cell lysate Lane 4: HT-29 whole cell lysate Lane 5: SW480 whole cell lysate Lane 6: Mouse heart lysate Lane 7: 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 : 108 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemical analysis of paraffin-embedded human spleen tissue using AP11805b 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 human pancreas tissue using AP11805b 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.

NOD1 Antibody (C-term) - Background

This gene encodes a member of the NOD (nucleotide-binding oligomerization domain) family. This member is a cytosolic protein. It contains an N-terminal caspase recruitment domain (CARD), a centrally located nucleotide-binding domain (NBD), and 10 tandem leucine-rich repeats (LRRs) in its C terminus. The CARD is involved in apoptotic signaling, LRRs participate in protein-protein interactions, and mutations in the NBD may affect the process of oligomerization and subsequent function of the LRR domain. This

protein is an intracellular pattern-recognition receptor (PRR) that initiates inflammation in response to a subset of bacteria through the detection of bacterial diaminopimelic acid. Multiple alternatively spliced transcript variants differing in the 5' UTR have been described, but the full-length nature of these variants has not been determined.

NOD1 Antibody (C-term) - References

Hutton, M.L., et al. Infect. Immun. 78(11):4523-4531(2010)
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Lu, W.G., et al. World J. Gastroenterol. 16(34):4348-4356(2010)
Enevold, C., et al. Mult. Scler. 16(8):942-949(2010)
Ashton, K.A., et al. BMC Cancer 10, 382 (2010) :