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TLR7 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1507B

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9NYK1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB02414
Calculated MW	120922
Antigen Region	98-128

Additional Information

Gene ID	51284
Other Names	Toll-like receptor 7, TLR7
Target/Specificity	This TLR7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 98-128 amino acids from the N-terminal region of human TLR7.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	TLR7 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TLR7 (HGNC:15631)
Function	Endosomal receptor that plays a key role in innate and adaptive immunity (PubMed:14976261, PubMed:32433612). Controls host immune response against pathogens through recognition of uridine- containing single strand RNAs (ssRNAs) of viral origin or guanosine analogs (PubMed:12738885, PubMed:27742543, PubMed:31608988, PubMed:32706371,

PubMed:35477763). Upon binding to agonists, undergoes dimerization that brings TIR domains from the two molecules into direct contact, leading to the recruitment of TIR-containing downstream adapter MYD88 through homotypic interaction (PubMed:27742543). In turn, the Myddosome signaling complex is formed involving IRAK4, IRAK1, TRAF6, TRAF3 leading to activation of downstream transcription factors NF-kappa-B and IRF7 to induce pro-inflammatory cytokines and interferons, respectively (PubMed:27742543, PubMed:32706371). In plasmacytoid dendritic cells, RNASET2 endonuclease cooperates with PLD3 or PLD4 5'->3' exonucleases to process RNA and release 2',3'-cyclic guanosine monophosphate (2',3'-cGMP) and cytidine-rich RNA fragments that occupy TLR7 ligand-binding pockets and trigger a signaling-competent state.

Cellular Location

Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P58681}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P58681}. Endosome {ECO:0000250|UniProtKB:P58681}. Lysosome {ECO:0000250|UniProtKB:P58681}. Cytoplasmic vesicle, phagosome {ECO:0000250|UniProtKB:P58681}. Note=Relocalizes from endoplasmic reticulum to endosome and lysosome upon stimulation with agonist {ECO:0000250|UniProtKB:P58681}

Tissue Location

Detected in brain, placenta, spleen, stomach, small intestine, lung and in plasmacytoid pre-dendritic cells. Expressed in peripheral mononuclear blood cells (PubMed:32706371)

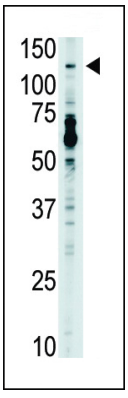
Background

The protein encoded by this gene is a member of the Toll-like receptor (TLR) family which plays a fundamental role in pathogen recognition and activation of innate immunity. TLRs are highly conserved from Drosophila to humans and share structural and functional similarities. They recognize pathogen-associated molecular patterns (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines necessary for the development of effective immunity. The various TLRs exhibit different patterns of expression. TLR7 is predominantly expressed in lung, placenta, and spleen, and lies in close proximity to another family member, TLR8, on chromosome X.

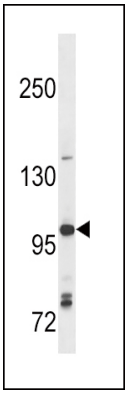
References

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Du, X., et al., Eur. Cytokine Netw. 11(3):362-371 (2000).
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Rock, F.L., et al., Proc. Natl. Acad. Sci. U.S.A. 95(2):588-593 (1998).

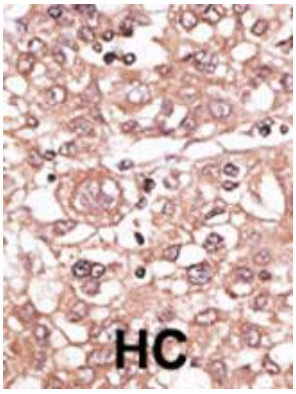
Images



The anti-TLR7 Pab (Cat. #AP1507b) is used in Western blot to detect TLR7 in mouse liver tissue lysate.



TLR7 Antibody (C112) (Cat. #AP1507b) western blot analysis in Ramos cell line lysates (35ug/lane).This demonstrates the TLR7 antibody detected the TLR7 protein (arrow).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.