

Anti-TLR7 Antibody
Catalog # ABO11041**Specification**

Anti-TLR7 Antibody - Product Information

Application	WB, IHC-P
Primary Accession	Q9NYK1
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Toll-like receptor 7(TLR7) detection. Tested with WB, IHC-P in Human;Rat;Mouse.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-TLR7 Antibody - Additional Information

Gene ID 51284

Other Names

Toll-like receptor 7, TLR7

Calculated MW

120922 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat

Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

Endoplasmic reticulum membrane ; Single-pass type I membrane protein . Endosome . Lysosome . Cytoplasmic vesicle, phagosome. Relocalizes from endoplasmic reticulum to endosome and lysosome upon stimulation with agonist. .

Tissue Specificity

Detected in brain, placenta, spleen, stomach, small intestine, lung and in plasmacytoid pre-dendritic cells.

Protein Name

Toll-like receptor 7

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human TLR7(1020-1038aa

QAHPYFWQCLKNALATDNH), different from the related rat and mouse sequences by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the Toll-like receptor family.

Anti-TLR7 Antibody - 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

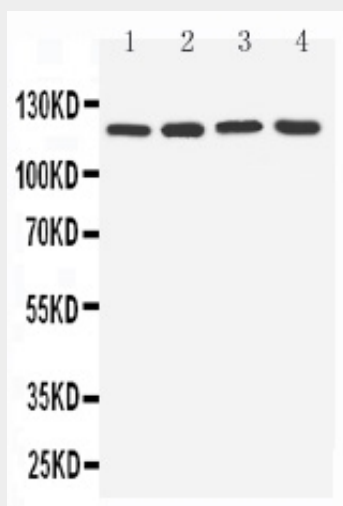
pre-dendritic cells. Expressed in peripheral mononuclear blood cells (PubMed:32706371)

Anti-TLR7 Antibody - Protocols

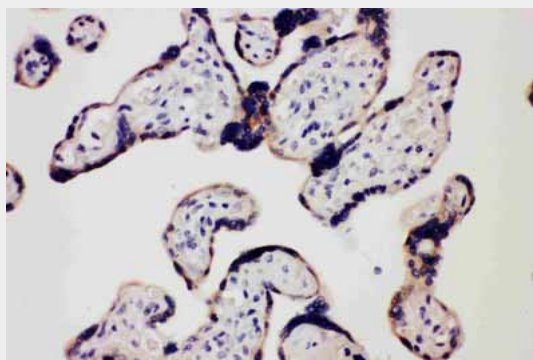
Provided below are standard protocols that you may find useful for product applications.

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

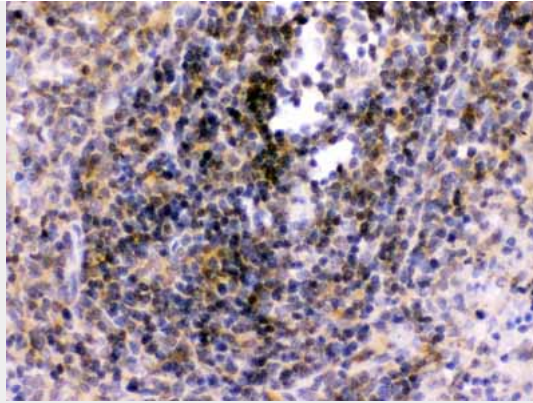
Anti-TLR7 Antibody - Images



Anti-TLR7 antibody, ABO11041, Western blotting
Lane 1: Rat Spleen Tissue Lysate
Lane 2: Rat Liver Tissue Lysate
Lane 3: U87 Cell Lysate
Lane 4: A549 Cell Lysate



Anti-TLR7 antibody, ABO11041, IHC(P)
IHC(P): Human Placenta Tissue



Anti-TLR7 antibody, AB011041, IHC(P)IHC(P): Rat Spleen Tissue

Anti-TLR7 Antibody - Background

TLR7(Toll-like receptor 7) is protein that in humans is encoded by the TLR7 gene. Orthologs are found in mammals and birds. TLR7 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. This gene is predominantly expressed in lung, placenta, and spleen, and lies in close proximity to another family member, TLR8, on human chromosome X. TLR7 recognises single stranded RNA in endosomes, which is a common feature of viral genomes which are internalised by macrophages.