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Anti-TLR4 Antibody
Catalog # ABO10803

Specification

Anti-TLR4 Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	O00206
Host	**Rabbit**
Reactivity	**Human**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Toll-like receptor 4(TLR4) detection. Tested with WB, IHC-P in Human.

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

Anti-TLR4 Antibody - Additional Information

Gene ID 7099

Other Names
Toll-like receptor 4, hToll, CD284, TLR4

Calculated MW
95680 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat
Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization
Cell membrane; Single-pass type I membrane protein. Upon complex formation with CD36 and TLR6, internalized through dynamin-dependent endocytosis. .

Tissue Specificity
Highly expressed in placenta, spleen and peripheral blood leukocytes. Detected in monocytes, macrophages, dendritic cells and several types of T-cells.

Protein Name
Toll-like receptor 4

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 N-terminus of human TLR4(50-68aa DNLPFSTKNLDLSFNPLRH).

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-TLR4 Antibody - Protein Information

Name TLR4

Function
Transmembrane receptor that functions as a pattern recognition receptor recognizing pathogen- and damage-associated molecular patterns (PAMPs and DAMPs) to induce innate immune responses via downstream signaling pathways (PubMed:10835634, PubMed:15809303, PubMed:16622205, PubMed:17292937, PubMed:17478729, PubMed:20037584, PubMed:20711192, PubMed:23880187, PubMed:27022195, PubMed:29038465, PubMed:17803912). At the plasma membrane, cooperates with LY96 to mediate the innate immune response to bacterial lipopolysaccharide (LPS) (PubMed:27022195). Also involved in LPS-independent inflammatory responses triggered by free fatty acids, such as palmitate, and Ni(2+) (PubMed:20711192). Mechanistically, acts via MYD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed:10835634, PubMed:21393102, PubMed:27022195, PubMed:36945827, PubMed:9237759). Alternatively, CD14- mediated TLR4 internalization via endocytosis is associated with the initiation of a MYD88-independent signaling via the TICAM1-TBK1-IRF3 axis leading to type I interferon production (PubMed:14517278). In addition to the secretion of proinflammatory cytokines, initiates the activation of NLRP3 inflammasome and formation of a positive feedback loop between autophagy and NF-kappa-B signaling cascade (PubMed:32894580). In complex with TLR6, promotes inflammation in monocytes/macrophages by associating with TLR6 and the receptor CD86 (PubMed:23880187). Upon ligand binding, such as oxLDL or amyloid-beta 42, the

TLR4:TLR6 complex is internalized and triggers inflammatory response, leading to NF-kappa-B-dependent production of CXCL1, CXCL2 and CCL9 cytokines, via MYD88 signaling pathway, and CCL5 cytokine, via TICAM1 signaling pathway (PubMed:23880187). In myeloid dendritic cells, vesicular stomatitis virus glycoprotein G but not LPS promotes the activation of IRF7, leading to type I IFN production in a CD14- dependent manner (PubMed:15265881, PubMed:23880187). Required for the migration-promoting effects of ZG16B/PAUF on pancreatic cancer cells.

Cellular Location
Cell membrane; Single-pass type I membrane protein. Early endosome. Cell projection, ruffle {ECO:0000250|UniProtKB:Q9QUK6}. Note=Upon complex formation with CD36 and TLR6, internalized through dynamin-dependent endocytosis (PubMed:20037584). Colocalizes with RFTN1 at cell membrane and then together with RFTN1 moves to endosomes, upon lipopolysaccharide stimulation. Co-localizes with ZG16B/PAUF at the cell membrane of pancreatic cancer cells (PubMed:36232715)

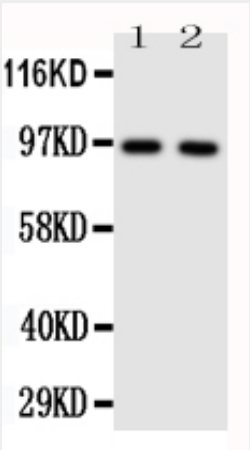
Tissue Location
Highly expressed in placenta, spleen and peripheral blood leukocytes (PubMed:9237759, PubMed:9435236). Detected in monocytes, macrophages, dendritic cells and several types of T-cells (PubMed:27022195, PubMed:9237759). Expressed in pancreatic cancer cells but not in normal pancreatic cells (at protein level) (PubMed:36232715).

Anti-TLR4 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 Cytomety
- Cell Culture

Anti-TLR4 Antibody - Images



Anti-TLR4 antibody, ABO10803, Western blottingLane 1: HELA Cell Lysate Lane 2: SMMC Cell

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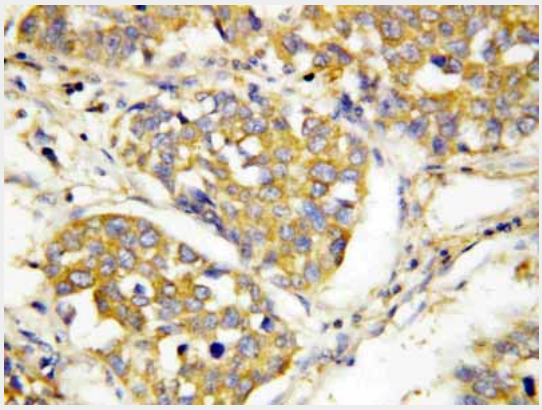
Lysate



Anti-TLR4 antibody, ABO10803, IHC(P)IHC(P): Human Lung Cancer Tissue

Anti-TLR4 Antibody - Background

TLR4, Toll-like receptor 4, is a protein that in humans is encoded by the TLR4 gene. TLR 4 is a toll-like receptor. TLR4, the human homolog of Drosophila Toll, is a type I transmembrane protein with an extracellular domain consisting of a leucine-rich repeat region and an intracellular domain homologous to that of human interleukin-1 receptor. The TLR4 gene is mapped to chromosome 9q32-q33 by fluorescence in situ hybridization.It detects lipopolysaccharide from Gram-negative bacteria and is thus important in the activation of the innate immune system.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.