

TLR4 Antibody

Purified Rabbit Polyclonal Antibody Catalog # ABV11523

Specification

TLR4 Antibody - Product Information

Application Primary Accession Reactivity Host Clonality Isotype Calculated MW WB <u>000206</u> Human Rabbit Polyclonal Rabbit IgG 95680

TLR4 Antibody - Additional Information

Gene ID 7099

Other Names ARMD10, CD284, TOLL, hToll, Toll-like receptor 4

Target/Specificity TLR4

Formulation 100 μg (0.2 mg/ml) Protein A affinity purified rabbit anti-TLR4 polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA, 0.02% thimerosal.

Handling The antibody solution should be gently mixed before use.

Background Descriptions

Precautions TLR4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TLR4 Antibody - Protein Information

Name TLR4

Function

Transmembrane receptor that functions as a pattern recognition receptor recognizing pathogenand damage-associated molecular patterns (PAMPs and DAMPs) to induce innate immune responses via downstream signaling pathways (PubMed:10835634, PubMed:15809303, PubMed:16622205, PubMed:<a



href="http://www.uniprot.org/citations/17292937" target=" blank">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).

TLR4 Antibody - Protocols



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

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

TLR4 Antibody - Images



Western blot analysis of TLR4 in transfected HRK293 cells.

TLR4 Antibody - Background

TLR4 (Toll-like receptor 4) is a mammalain homologue of the Drosophila toll protein. The human TLR4 is a type-1 transmembrane protein containing 799 amino acid residues. The extracellular domain has leucine-rich repeats and the intracellular domain is similar to that of IL-1 receptor. TLR4 is a receptor for lipopolysaccharide (LPS). In mice that are genetically tolerant to endotoxin, mutations have been identified in the intracellular domain of TLR4 that abolish LPS responsiveness. TLR4 uses a mechanism similar to that of the IL-1 receptor for signal transduction that leads to activation of NF-kB.