

Rabbit TLR4 Polyclonal Antibody | anti-TLR4 antibody

TLR4 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA328230	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

TLR4; Polyclonal Antibody; TLR4 Antibody; ARMD10; CD284; CD284 antigen; Homolog of Drosophila toll; hToll; TLR 4; TLR4_HUMAN; TOLL; Toll like receptor 4; Toll-like receptor 4; anti-TLR4 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	TLR4 antibody detects endogenous levels of total TLR4.
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin (Thermo Fisher Scientific).
Form/Format	Liquid; Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	799
Applicable Applications for anti-TLR4 antibody	ELISA (Peptide ELISA), ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human TLR4.
Tissue Specificity	Highly expressed in placenta, spleen and peripheral blood leukocytes (PubMed:9435236, PubMed:9237759). Detected in monocytes, macrophages, dendritic cells and several types of T-cells (PubMed:9237759, PubMed:27022195).
Subcellular Location	Endosome; Plasma Membrane
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



WB (Western Blot)

Western blot analysis of extracts from Mouse brain, using TLR4 Antibody. The lane on the left was treated with blocking peptide.



IHC (Immunohistochemistry)

IHC analysis of TLR4 in mouse kidney tissue



IF (Immunofluorescence)

At 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody , diluted at 1/600, was used as secondary antibody

ADDITIONAL INFORMATION

Related Product Information for anti-TLR4 antibody

Description: Cooperates with LY96 and CD14 to mediate the innate immune response to bacterial lipopolysaccharide (LPS) (PubMed:27022195). Acts via MYD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed:9237759, PubMed:10835634, PubMed:27022195). Also involved in LPS-independent inflammatory responses triggered by free fatty acids, such as palmitate, and Ni2+. Responses triggered by Ni2+ require non-conserved histidines and are, therefore, species-specific (PubMed:20711192). Both M.tuberculosis HSP70 (dnaK) and HSP65 (groEL-2) act via this protein to stimulate NF-kappa-B expression (PubMed:15809303). In complex with TLR6, promotes sterile inflammation in monocytes/macrophages in response to oxidized low-density lipoprotein (oxLDL) or amyloid-beta 42. In this context, the initial signal is provided by oxLDL- or amyloid-beta 42-binding to CD36. This event induces the formation of a heterodimer of TLR4 and TLR6, which is rapidly internalized and triggers inflammatory response, leading to the NF-kappa-B-dependent production of CXCL1, CXCL2 and CCL9 cytokines, via MYD88 signaling pathway, and CCL5 cytokine, via TICAM1 signaling pathway, as well as IL1B secretion. Binds electronegative LDL (LDL-) and mediates the cytokine release induced by LDL- (PubMed:23880187). Stimulation of monocytes in vitro with M.tuberculosis PstS1 induces p38 MAPK and ERK1/2 activation primarily via TLR2, but also partially via this receptor (PubMed:16622205).

Post Translational Modifications: N-glycosylated. Glycosylation of Asn-526 and Asn-575 seems to be necessary for the expression of TLR4 on the cell surface and the LPS-response. Likewise, mutants lacking two or more of the other N-glycosylation sites were deficient in interaction with LPS.

Subunit Structure: Belongs to the lipopolysaccharide (LPS) receptor, a multi-protein complex containing at least CD14, LY96 and TLR4 (PubMed:11274165). Binding to bacterial LPS leads to homodimerization. Interacts with LY96 via the extracellular domain (PubMed:17803912, PubMed:19252480). Interacts with MYD88 and TIRAP via their respective TIR domains (By similarity). Interacts with TICAM2 (PubMed:14519765, PubMed:25736436). Interacts with NOX4 (PubMed:15356101). Interacts with CNPY3 (By similarity). Interacts with HSP90B1. The interaction with both CNPY3 and HSP90B1 is required for proper folding in the endoplasmic reticulum. Interacts with MAP3K21; this interaction leads to negative regulation of TLR4 signaling (PubMed:21602844). Interacts with CD36, following CD36 stimulation by oxLDL or amyloid-beta 42, and forms a heterodimer with TLR6 (PubMed:20037584). The trimeric complex is internalized and triggers inflammatory response. LYN kinase activity facilitates TLR4-TLR6 heterodimerization and signal initiation. Interacts with TICAM1 in response to LPS in a WDFY1-dependent manner (PubMed:25736436). Interacts with WDFY1 in response to LPS (By similarity). Interacts with SMPDL3B (By similarity). Interacts with CEACAM1; upon lipopolysaccharide stimulation, forms a complex including TLR4 and the phosphorylated form of SYK and CEACAM1, which in turn, recruits PTPN6 that dephosphorylates SYK, reducing the production of reactive oxygen species (ROS) and lysosome disruption, which in turn, reduces the activity of the inflammasome (By similarity). Interacts with RFTN1; the interaction occurs in response to lipopolysaccharide stimulation (PubMed:27022195).

Similarity: The TIR domain mediates interaction with NOX4. Belongs to the Toll-like receptor family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4507533
NCBI GeneID	7099
NCBI Accession #	NP_003257.1
NCBI GenBank Nucleotide #	NP_003257.1
UniProt Accession #	O00206

Molecular Weight	Observed: 100 kDa Predicted: 96 kDa
NCBI Official Full Name	toll-like receptor 4 isoform C
NCBI Official Synonym Full Names	toll like receptor 4
NCBI Official Symbol	TLR4
NCBI Official Synonym Symbols	TOLL; CD284; TLR-4; ARMD10
NCBI Protein Information	toll-like receptor 4
UniProt Protein Name	Toll-like receptor 4
UniProt Gene Name	TLR4
UniProt Entry Name	TLR4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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