

TLR4 Antibody (clone 3B6)
Mouse Monoclonal Antibody
Catalog # ALS14355

Specification

TLR4 Antibody (clone 3B6) - Product Information

Application	IHC
Primary Accession	O00206
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	96kDa KDa

TLR4 Antibody (clone 3B6) - Additional Information

Gene ID 7099

Other Names

Toll-like receptor 4, hToll, CD284, TLR4

Target/Specificity

Human TLR4

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions

TLR4 Antibody (clone 3B6) is for research use only and not for use in diagnostic or therapeutic procedures.

TLR4 Antibody (clone 3B6) - 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](http://www.uniprot.org/citations/10835634), PubMed: [15809303](http://www.uniprot.org/citations/15809303), PubMed: [16622205](http://www.uniprot.org/citations/16622205), PubMed: [17292937](http://www.uniprot.org/citations/17292937), PubMed: [17478729](http://www.uniprot.org/citations/17478729), PubMed: [20037584](http://www.uniprot.org/citations/20037584), PubMed: [20711192](http://www.uniprot.org/citations/20711192), PubMed: [23880187](http://www.uniprot.org/citations/23880187), PubMed: [27022195](http://www.uniprot.org/citations/27022195), PubMed: [29038465](http://www.uniprot.org/citations/29038465)). 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).

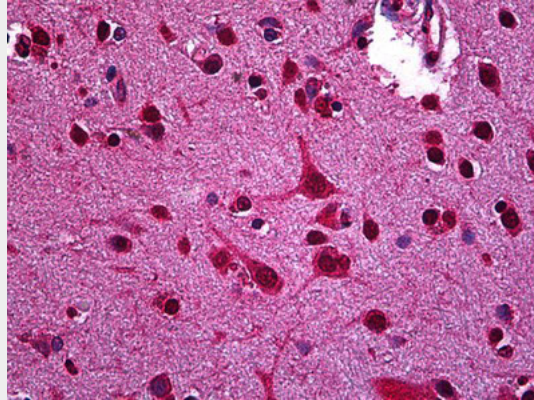
TLR4 Antibody (clone 3B6) - Protocols

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](#)

TLR4 Antibody (clone 3B6) - Images



Anti-TLR4 antibody IHC of human brain, cortex.

TLR4 Antibody (clone 3B6) - Background

Cooperates with LY96 and CD14 to mediate the innate immune response to bacterial lipopolysaccharide (LPS). Acts via MYD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response. Also involved in LPS- independent inflammatory responses triggered by free fatty acids, such as palmitate, and Ni(2+). Responses triggered by Ni(2+) require non-conserved histidines and are, therefore, species- specific. 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.

TLR4 Antibody (clone 3B6) - References

- Medzhitov R.,et al.Nature 388:394-397(1997).
Rock F.L.,et al.Proc. Natl. Acad. Sci. U.S.A. 95:588-593(1998).
Smirnova I.,et al.Genome Biol. 1:RESEARCH002.1-RESEARCH002.10(2000).
Arbour N.C.,et al.Nat. Genet. 25:187-191(2000).
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