

**TLR4 Antibody (Internal)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS11150****Specification**

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**TLR4 Antibody (Internal) - Product Information**

Application	IHC
Primary Accession	<a href="#">O00206</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	96kDa KDa

**TLR4 Antibody (Internal) - Additional Information****Gene ID** 7099**Other Names**

Toll-like receptor 4, hToll, CD284, TLR4

**Target/Specificity**

Human TLR4. BLAST analysis of the peptide immunogen showed no homology with other human proteins.

**Reconstitution & Storage**

Long term: -70°C; Short term: +4°C

**Precautions**

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

**TLR4 Antibody (Internal) - 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)),

<http://www.uniprot.org/citations/29038465> target="\_blank">29038465</a>). At the plasma membrane, cooperates with LY96 to mediate the innate immune response to bacterial lipopolysaccharide (LPS) (PubMed:<a href="http://www.uniprot.org/citations/27022195" target="\_blank">27022195</a>). Also involved in LPS-independent inflammatory responses triggered by free fatty acids, such as palmitate, and Ni(2+) (PubMed:<a href="http://www.uniprot.org/citations/20711192" target="\_blank">20711192</a>). Mechanistically, acts via MYD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed:<a href="http://www.uniprot.org/citations/10835634" target="\_blank">10835634</a>, PubMed:<a href="http://www.uniprot.org/citations/21393102" target="\_blank">21393102</a>, PubMed:<a href="http://www.uniprot.org/citations/27022195" target="\_blank">27022195</a>, PubMed:<a href="http://www.uniprot.org/citations/36945827" target="\_blank">36945827</a>, PubMed:<a href="http://www.uniprot.org/citations/9237759" target="\_blank">9237759</a>). 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:<a href="http://www.uniprot.org/citations/14517278" target="\_blank">14517278</a>). 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:<a href="http://www.uniprot.org/citations/32894580" target="\_blank">32894580</a>). In complex with TLR6, promotes inflammation in monocytes/macrophages by associating with TLR6 and the receptor CD86 (PubMed:<a href="http://www.uniprot.org/citations/23880187" target="\_blank">23880187</a>). 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:<a href="http://www.uniprot.org/citations/23880187" target="\_blank">23880187</a>). 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:<a href="http://www.uniprot.org/citations/15265881" target="\_blank">15265881</a>, PubMed:<a href="http://www.uniprot.org/citations/23880187" target="\_blank">23880187</a>). 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).

### Volume

50 µl

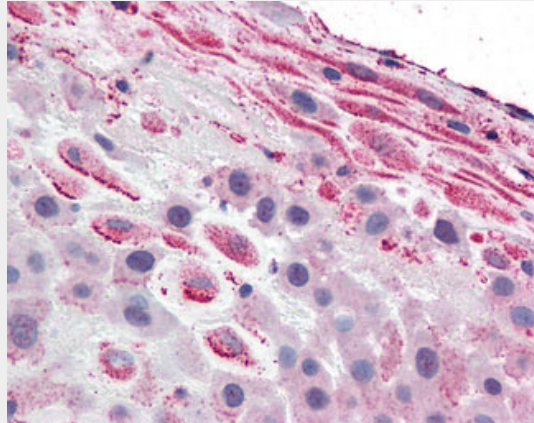
### TLR4 Antibody (Internal) - Protocols

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 (Internal) - Images**



Anti-TLR4 antibody ALS11150 IHC of human placenta, decidua.

#### **TLR4 Antibody (Internal) - 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 (Internal) - 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).  
Nakajima T., et al. Immunogenetics 60:727-735(2008).