

# TLR2 Antibody

Catalog # ASC10192

## Product Information

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<b>Application</b>	WB, IF, E, IHC-P
<b>Primary Accession</b>	<a href="#">O60603</a>
<b>Other Accession</b>	<a href="#">O60603</a> , <a href="#">20140434</a>
<b>Reactivity</b>	Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG
<b>Calculated MW</b>	89838
<b>Concentration (mg/ml)</b>	1 mg/mL
<b>Conjugate</b>	Unconjugated
<b>Application Notes</b>	TLR2 antibody can be used for detection of TLR2 by Western blot at 1 $\mu$ g/mL. Despite its predicted molecular weight, TLR2 runs at ~100 kDa in SDS-PAGE. This polyclonal antibody can also detect TLR2 by immunohistochemistry at 2 $\mu$ g/mL. For immunofluorescence start at 10 $\mu$ g/mL.

## Additional Information

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<b>Gene ID</b>	7097
<b>Other Names</b>	TLR2 Antibody: TIL4, CD282, TIL4, Toll-like receptor 2, toll-like receptor 2
<b>Target/Specificity</b>	TLR2;
<b>Reconstitution &amp; Storage</b>	TLR2 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
<b>Precautions</b>	TLR2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	TLR2 ( <a href="#">HGNC:11848</a> )
<b>Synonyms</b>	TIL4
<b>Function</b>	Cooperates with LY96 to mediate the innate immune response to bacterial lipoproteins and other microbial cell wall components. Cooperates with TLR1 or TLR6 to mediate the innate immune response to bacterial lipoproteins or lipopeptides (PubMed: <a href="#">17889651</a> , PubMed: <a href="#">21078852</a> ). Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response. May also activate immune cells and promote apoptosis in response to the lipid moiety of lipoproteins (PubMed: <a href="#">10426995</a> ,

PubMed:[10426996](#)). Recognizes mycoplasmal macrophage-activating lipopeptide-2kD (MALP-2), soluble tuberculosis factor (STF), phenol-soluble modulin (PSM) and B.burgdorferi outer surface protein A lipoprotein (OspA-L) cooperatively with TLR6 (PubMed:[11441107](#)). Stimulation of monocytes in vitro with M.tuberculosis PstS1 induces p38 MAPK and ERK1/2 activation primarily via this receptor, but also partially via TLR4 (PubMed:[16622205](#)). MAPK activation in response to bacterial peptidoglycan also occurs via this receptor (PubMed:[16622205](#)). Acts as a receptor for M.tuberculosis lipoproteins LprA, LprG, LpqH and PstS1, some lipoproteins are dependent on other coreceptors (TLR1, CD14 and/or CD36); the lipoproteins act as agonists to modulate antigen presenting cell functions in response to the pathogen (PubMed:[19362712](#)). M.tuberculosis HSP70 (dnaK) but not HSP65 (groEL-2) acts via this protein to stimulate NF-kappa-B expression (PubMed:[15809303](#)). Recognizes M.tuberculosis major T-antigen EsxA (ESAT-6) which inhibits downstream MYD88-dependent signaling (shown in mouse) (By similarity). Forms activation clusters composed of several receptors depending on the ligand, these clusters trigger signaling from the cell surface and subsequently are targeted to the Golgi in a lipid-raft dependent pathway. Forms the cluster TLR2:TLR6:CD14:CD36 in response to diacylated lipopeptides and TLR2:TLR1:CD14 in response to triacylated lipopeptides (PubMed:[16880211](#)). Required for normal uptake of M.tuberculosis, a process that is inhibited by M.tuberculosis LppM (By similarity).

#### Cellular Location

Membrane {ECO:0000250|UniProtKB:Q9QUN7}; Single-pass type I membrane protein. Cytoplasmic vesicle, phagosome membrane {ECO:0000250|UniProtKB:Q9QUN7}; Single-pass type I membrane protein. Membrane raft. Note=Does not reside in lipid rafts before stimulation but accumulates increasingly in the raft upon the presence of the microbial ligand. In response to diacylated lipoproteins, TLR2:TLR6 heterodimers are recruited in lipid rafts, this recruitment determines the intracellular targeting to the Golgi apparatus. Triacylated lipoproteins induce the same mechanism for TLR2:TLR1 heterodimers.

#### Tissue Location

Highly expressed in peripheral blood leukocytes, in particular in monocytes, in bone marrow, lymph node and in spleen. Also detected in lung and in fetal liver. Levels are low in other tissues

## Background

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TLR2 Antibody: Toll-like receptors (TLRs) are signaling molecules that recognize different microbial products during infection and serve as an important link between the innate and adaptive immune responses. These proteins act through adaptor molecules such as MyD88 and TIRAP to activate various kinases and transcription factors such as Protein Kinase C (PKC) alpha/beta and NF-κB. TLR2 can form heterodimers with either TLR1 or TLR6, and as a heterodimer can recognize a variety of bacterial and mycoplasma lipoproteins respectively.

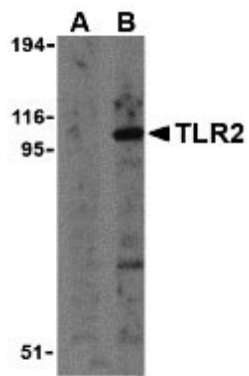
## References

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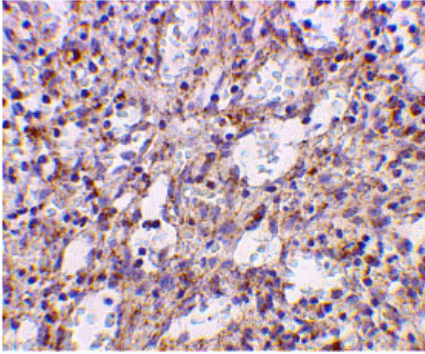
Vogel SN, Fitzgerald KA, and Fenton MJ. TLRs: differential adapter utilization by toll-like receptors mediates TLR-specific patterns of gene expression. *Mol. Interv.* 2003; 3:466-77.  
Takeda K, Kaisho T, and Akira S. Toll-like receptors. *Annu. Rev. Immunol.* 2003; 21:335-76.  
Janeway CA Jr. and Medzhitov R. Innate immune recognition. *Annu. Rev. Immunol.* 2002; 20:197-216.  
O'Neill LAJ, Fitzgerald FA, and Bowie AG. The Toll-IL-1 receptor adaptor family grows to five members. *Trends in Imm.* 2003; 24:286-9.

## Images

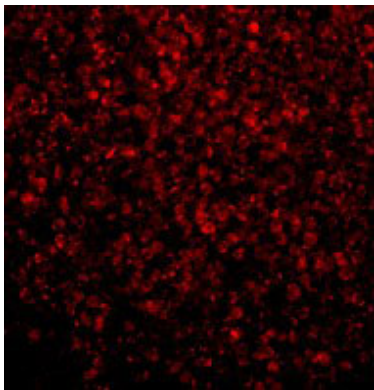
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Western blot analysis of TLR2 in A20 cell lysates with TLR2 antibody at 1  $\mu\text{g/mL}$  in the presence (A) and absence (B) of its blocking peptide.



Immunohistochemical staining of human spleen cells using TLR2 antibody at 2  $\mu\text{g/mL}$ .



Immunofluorescence of TLR2 in Human Spleen tissue with TLR2 antibody at 10  $\mu\text{g/mL}$ .

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.