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Rabbit Anti-TLR2 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP52045

Product Information

Application	WB, IHC-P, IHC-F
Primary Accession	O60603
Reactivity	Human, Mouse, Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	89838
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TLR2
Epitope Specificity	701-784/784
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Single-pass type I membrane protein.
SIMILARITY	Belongs to the Toll-like receptor family.Contains 14 LRR (leucine-rich) repeats.Contains 1 TIR domain.
SUBUNIT	Interacts with LY96, TLR1 and TLR6 (via extracellular domain). Binds MYD88 (via TIR domain). Interacts with TICAM1. Ligand binding induces the formation of a heterodimer with TLR1. Interacts with CNPY3.
Post-translational modifications	Glycosylation of Asn-442 is critical for secretion of the N-terminal ectodomain of TLR2.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The protein encoded by this gene is a member of the Toll-like receptor (TLR) family which plays a fundamental role in pathogen recognition and activation of innate immunity. TLRs are highly conserved from Drosophila to humans and share structural and functional similarities. They recognize pathogen-associated molecular patterns (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines necessary for the development of effective immunity. The various TLRs exhibit different patterns of expression. This gene is expressed most abundantly in peripheral blood leukocytes, and mediates host response to Gram-positive bacteria and yeast via stimulation of NF-kappaB. [provided by RefSeq, Jul 2008].

Additional Information

Gene ID	7097
Other Names	TIL4; CD282; Toll-like receptor 2; Toll/interleukin-1 receptor-like protein 4; TLR2
Target/Specificity	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.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	TLR2 (HGNC:11848)
Synonyms	TIL4
Function	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:17889651, PubMed:21078852). 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:10426995, 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

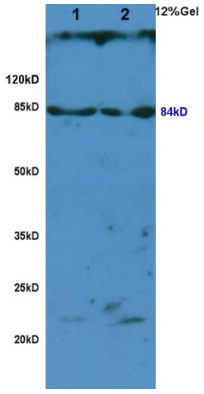
Background

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. Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response. May also promote apoptosis in response to lipoproteins. 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.

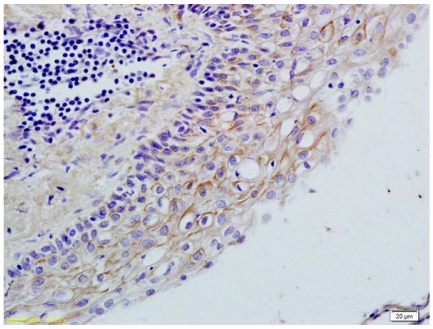
References

Chaudhary P.M.,et al.Blood 91:4020-4027(1998).
Rock F.L.,et al.Proc. Natl. Acad. Sci. U.S.A. 95:588-593(1998).
Yang R.-B.,et al.Nature 395:284-288(1998).
Nakajima T.,et al.Immunogenetics 60:727-735(2008).
Georgel P.,et al.PLoS ONE 4:E7803-E7803(2009).

Images

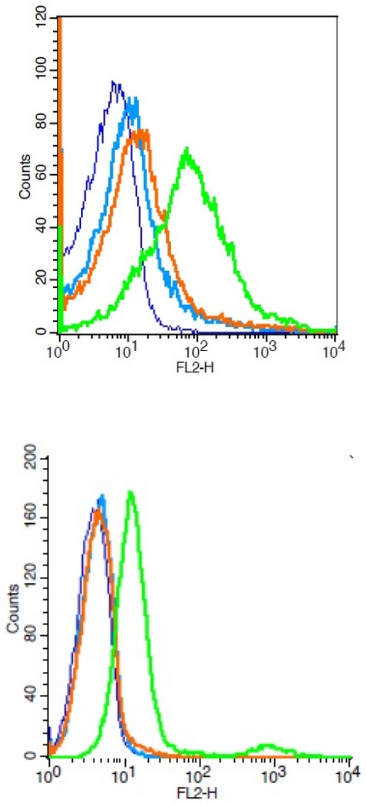


L1 rat brain, L2 rat lung lysates probed (AP52045) at 1:200 in 4˚C. Followed by conjugation to secondary antibody at 1:3000 90min in 37˚C. Predicted and observed band size: 84kDa.



Formalin-fixed and paraffin embedded rat ovary tissue labeled with Rabbit Anti-TLR2/CD282 Polyclonal Antibody (AP52045), Unconjugated 1:200 followed by conjugation to the secondary antibody and DAB staining

Mouse spleen cells probed with TLR2 Polyclonal Antibody, Unconjugated AP52045 at 1:20 for 30 minutes followed by incubation with a conjugated secondary antibody (PE Conjugated) (green) for 30 minutes compared to control cells (blue), secondary only (light blue) and isotype control (orange).



Human A549 cells probed with TLR2 Polyclonal Antibody, Unconjugated AP52045 (green) at 1:20 for 30 minutes followed by a PE conjugated secondary antibody compared to unstained cells (blue), secondary only (light blue), and isotype control (orange).

Citations

- Deletion of Thioredoxin-interacting protein ameliorates high fat diet-induced non-alcoholic steatohepatitis through modulation of Toll-like receptor 2-NLRP3-inflammasome axis: Histological and immunohistochemical study.