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TLR9 Antibody

Catalog # ASC10394

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q9NR96
Other Accession	AAH32713, 21595773
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	115860
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TLR9 antibody can be used for detection of TLR9 by Western blot at 0.5 to 2 g/mL. Antibody can also be used for immunocytochemistry starting at 2 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	54106
Other Names	TLR9 Antibody: CD289, Toll-like receptor 9, toll-like receptor 9
Target/Specificity	TLR9; At least two isoforms of TLR9 are known to exist; this antibody will detect both isoforms. TLR9 antibody is predicted to not cross-react with other TLR proteins.
Reconstitution & Storage	TLR9 antibody can be stored at 4℃ for three months and -20℃, 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.
Precautions	TLR9 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TLR9
Function	Key component of innate and adaptive immunity (PubMed: 14716310). TLRs (Toll-like receptors) control host immune response against pathogens through recognition of molecular patterns specific to microorganisms (PubMed:14716310). TLR9 is a nucleotide- sensing TLR which is activated by unmethylated cytidine-phosphate- guanosine (CpG) dinucleotides (PubMed:14716310). Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed:11564765, PubMed:17932028, PubMed:40980882). Also acts via

	ADCY7, leading to cyclic di-AMP (c-di- AMP) synthesis and activation of the NLRP3 inflammasome (By similarity). Plays a role in defense against systemic mouse cytomegalovirus infection (By similarity). Controls lymphocyte response to Helicobacter infection (By similarity). Upon CpG stimulation, induces B-cell proliferation, activation, survival and antibody production (PubMed:23857366).
Cellular Location	Endoplasmic reticulum membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q9EQU3}. Early endosome membrane. Lysosome {ECO:0000250|UniProtKB:Q9EQU3} Cytoplasmic vesicle, phagosome {ECO:0000250|UniProtKB:Q9EQU3}. Golgi apparatus membrane. Note=Relocalizes from endoplasmic reticulum to endosome and lysosome upon stimulation with agonist. Exit from the ER requires UNC93B1. Endolysosomal localization is required for proteolytic cleavage and subsequent activation Intracellular localization of the active receptor may prevent from responding to self nucleic acid. {ECO:0000250|UniProtKB:Q9EQU3, ECO:0000269|PubMed:14716310, ECO:0000269|PubMed:38169466}
Tissue Location	Highly expressed in spleen, lymph node, tonsil and peripheral blood leukocytes, especially in plasmacytoid pre-dendritic cells. Levels are much lower in monocytes and CD11c+ immature dendritic cells. Also detected in lung and liver

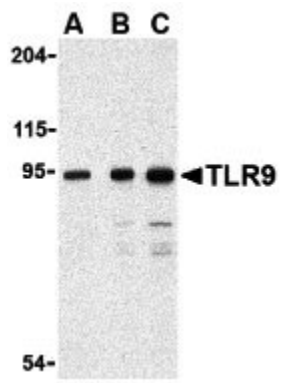
Background

TLR9 Antibody: Toll-like receptors (TLRs) are evolutionarily conserved pattern-recognition molecules resembling the toll proteins that mediate antimicrobial responses in Drosophila. These proteins recognize different microbial products during infection and serve as an important link between the innate and adaptive immune responses. TLR9 forms a subfamily along with TLR7 and TLR8 that recognize viral RNA and CpG DNA sequences and are localized in intracellular acidic compartments such as the phagolysosome. Unlike other TLRs which act through adaptor molecules such as TOLLIP, TIRAP, TRIF, and MyD88 to activate various kinases and transcription factors to respond to potential infection, TLR9 is strictly dependent on MyD88.

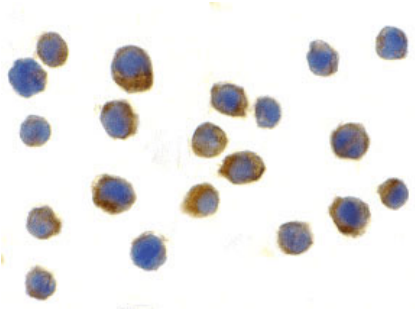
References

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.
Wagner H. The immunobiology of the TLR9 subfamily. Trends Immunol.2004; 381-6
Nishiya T and DeFranco AL. Ligand-regulated chimeric receptor approach reveals distinctive subcellular localization and signaling properties of the Toll-like receptors. J. Biol. Chem.2004; 279:19008-17.

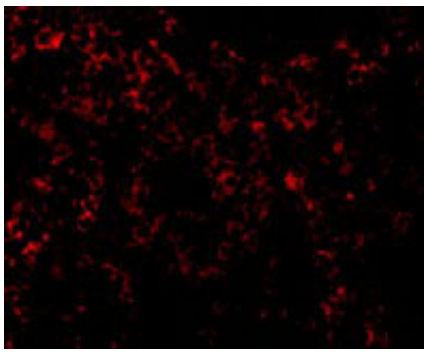
Images



Western blot analysis of TLR9 in Jurkat cell lysate with TLR9 antibody at (A) 0.5, (B) 1 and (C) 2 µg/mL.



Immunocytochemistry of TLR9 in Jurkat cells with TLR9 antibody at 2 µg/mL.



Immunofluorescence of TLR9 in Mouse Spleen tissue with TLR9 antibody at 10 µg/mL.

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