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Mouse Monoclonal Antibody to TLR9

Purified Mouse Monoclonal Antibody
Catalog # AO2370a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	Q9NR96
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1B12H2
Isotype	Mouse IgG2a
Calculated MW	115860
Description	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 preferentially expressed in immune cell rich tissues, such as spleen, lymph node, bone marrow and peripheral blood leukocytes. Studies in mice and human indicate that this receptor mediates cellular response to unmethylated CpG dinucleotides in bacterial DNA to mount an innate immune response.;
Immunogen	Purified recombinant fragment of human TLR9 (AA: 868-1016) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide
Application Note	ELISA: 1/10000; WB: 1/500 - 1/2000; IHC: 1/200 - 1/1000; ICC: 1/200 - 1/1000; FCM: 1/200 - 1/400

Additional Information

Gene ID	54106
Other Names	CD289
Dilution	WB~~1:1000 IHC~~1:100~500 FC~~1:10~50 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Monoclonal Antibody to TLR9 is for research use only and not for use in diagnostic or therapeutic procedures.

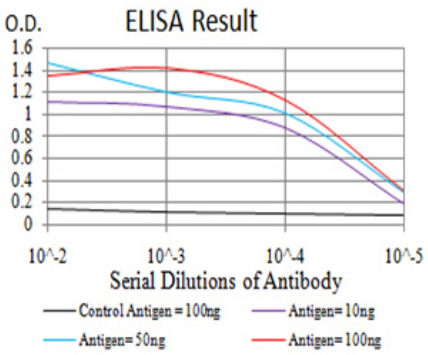
Protein Information

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

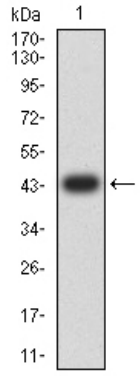
References

1.J Virol. 2015 Nov;89(22):11396-405. ; 2.Immunogenetics. 2014 Dec;66(12):675-81.;

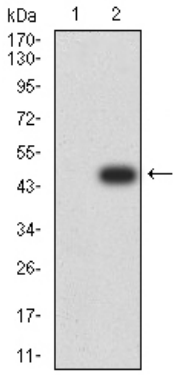
Images



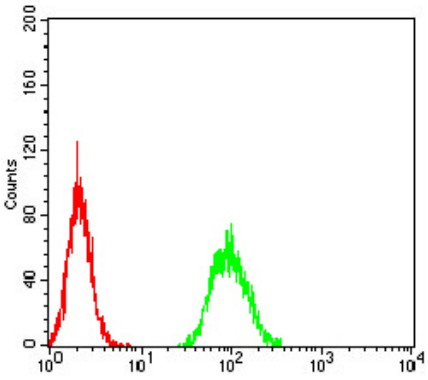
Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)



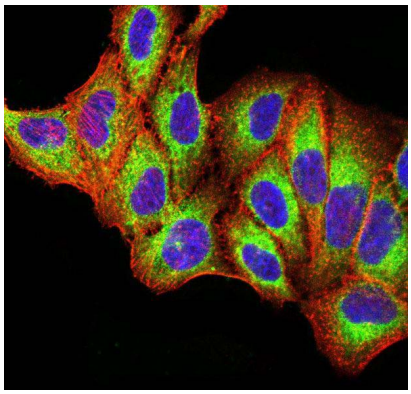
Western blot analysis using TLR9 mAb against human TLR9 (AA: 868-1016) recombinant protein. (Expected MW is 43.4 kDa)



Western blot analysis using TLR9 mAb against HEK293 (1) and TLR9 (AA: 868-1016)-hIgGFc transfected HEK293 (2) cell lysate.

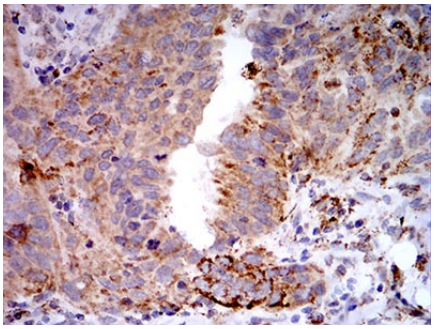


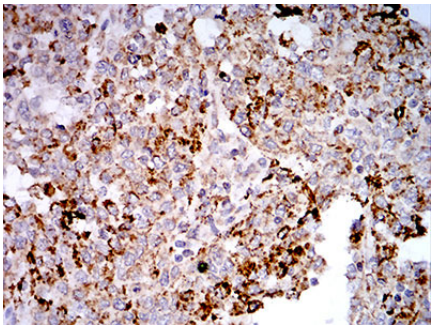
Flow cytometric analysis of A549 cells using TLR9 mouse mAb (green) and negative control (red).



Immunofluorescence analysis of SK-OV-3 cells using TLR9 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin. Secondary antibody from Fisher

Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using TLR9 mouse mAb with DAB staining.





Immunohistochemical analysis of paraffin-embedded endometrial cancer tissues using TLR9 mouse mAb with DAB staining.

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