abcam

ab210930

Anti-TLR9 antibody [ABM4D70]

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Mouse Tlr9 aa 600-900. The exact immunogen used to generate this antibody is proprietary information. Database link Q9EQU3
Clone number	ABM4D70
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	0.5 µg for 10^6 Cells
Notes	-

WB

Tested

Species	Mouse
Dilution info	2 µg/mL
Notes	-

Target data

See full target information Tlr9

Function	Key component of innate and adaptive immunity (PubMed:31408613). TLRs (Toll-like receptors) control host immune response against pathogens through recognition of molecular patterns specific to microorganisms (PubMed:31408613). TLR9 is a nucleotide-sensing TLR which is activated by unmethylated cytidine-phosphate-guanosine (CpG) dinucleotides (PubMed:31408613). Acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed:14993594, PubMed:17474149, PubMed:18820679, PubMed:18931679, PubMed:21402738, PubMed:25686612). Also acts via ADCY7, leading to cyclic di-AMP (c-di-AMP) synthesis and activation of the NLRP3 inflammasome (PubMed:40419769). Plays a role in defense against systemic mouse cytomegalovirus infection (PubMed:14993594). Controls lymphocyte response to Helicobacter infection (PubMed:17474149). Upon CpG stimulation, induces B-cell proliferation, activation, survival and antibody production (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	TLR9 also known as Toll-like receptor 9 is a protein that detects unmethylated CpG motifs which are common in bacterial and viral DNA. This protein weighs about 116 kDa. It mainly expresses in plasmacytoid dendritic cells B cells and in epithelial cells of various tissues. TLR9 locates in the endoplasmic reticulum and translocates to endolysosomes upon activation which is essential for its detection function.
Biological function summary	TLR9 recognizes and binds to microbial DNA triggering an immune response. It is part of the Toll-like receptor family which plays an important role in the innate immune system. TLR9 engages in the formation of complexes with other molecules such as MyD88 an adaptor protein to propagate downstream signaling. This leads to the activation of transcription factors that stimulate cytokine production promoting inflammation and defense against infections.
Pathways	TLR9 participates significantly in the NF-kB activation pathway and the type I interferon signaling cascade. During these processes TLR9 interacts with proteins like IRAK4 and TRAF6. In the NF-kB pathway TLR9's role in the early immune response is coordinated with other Toll-like receptors to detect pathogen-related patterns and initiate adaptive immunity. Its influence on type I interferon signaling facilitates antiviral defense mechanisms.
Associated diseases and disorders	TLR9's malfunction or altered expression associates with systemic lupus erythematosus (SLE) and cancer. In SLE overactivation of TLR9 leads to autoantibody production which worsens the disease. This can involve the protein BAFF which supports B cell proliferation. In cancer TLR9 can influence tumor growth and the tumor microenvironment affecting disease progression. Its modulation is being researched for therapeutic interventions in these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

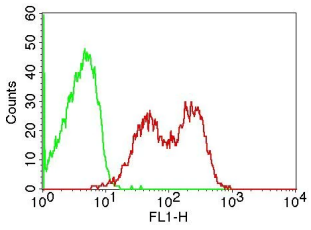
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

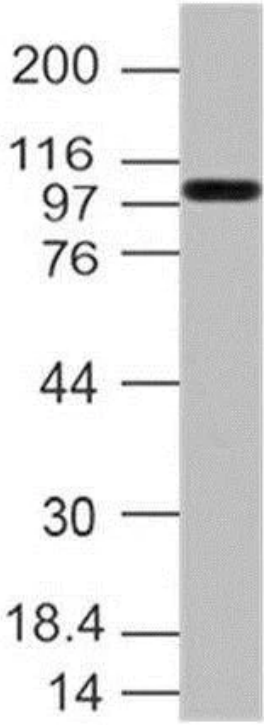
2 product images



Flow Cytometry - Anti-TLR9 antibody [ABM4D70] (ab210930)

TLR9 Flow Cytometry staining using rat Anti-TLR9 antibody

Flow cytometric analysis of mouse splenocytes labeling TLR9 with ab210930 at 0.5 µg/10^6 cells (red) compared with negative control cells (green). Goat anti-mouse PE conjugate was used as secondary antibody.



Western blot - Anti-TLR9 antibody [ABM4D70] (ab210930)

All lanes:
Western blot - Anti-TLR9 antibody [ABM4D70] (ab210930) at 2 µg/mL

All lanes:
mouse small intestine lysate

Predicted band size: 115 kDa

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