abcam

ab13915

Anti-TLR3 antibody [40C1285]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.05% Sodium azide Constituents: PBS, 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human TLR3 aa 50-100 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link O15455
Clone number	40C1285
Purification technique	Affinity purification Protein G
Specificity	Negative results in WB have been obtained for mouse interstine lysates (human intestine is a positive control). The protein is heavily glycosylated and the observed band size should be higher than the predicted 103kDa. The protein is found at different molecular weight in different tissues so optimization may be necessary.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1-3 µg/mL

Notes	TLR3 is a single-pass type I membrane protein. We recomend not to boil the samples, instead heat lysates at 60-70C for 10 minutes.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	5-10 µg/mL
Notes	Permeabilization of samples might be necessary and overnight incubation with the ab13915 is recommended.

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	2-5 µg/cells for 6 µg/cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.

Notes	-

Target data

See full target information TLR3

Function	Key component of innate and adaptive immunity. TLRs (Toll-like receptors) control host immune response against pathogens through recognition of molecular patterns specific to microorganisms. TLR3 is a nucleotide-sensing TLR which is activated by double-stranded RNA, a sign of viral infection. Acts via the adapter TRIF/TICAM1, leading to NF-kappa-B activation, IRF3 nuclear translocation, cytokine secretion and the inflammatory response.

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	TLR3 also known as Toll-like receptor 3 is a protein that plays an important role in immune response mechanisms. With a molecular mass of around 104 kDa TLR3 is part of the Toll-like receptor family and expresses mostly in immune cells including dendritic cells and macrophages. It locates mainly on the endosomal membrane where it recognizes double-stranded RNA (dsRNA) which is often a sign of viral infection. TLR3 initiates signaling cascades that lead to the activation of important immune transcription factors.
Biological function summary	TLR3 acts as a sensor for viral and endogenous dsRNA. This receptor forms part of the innate immune system serving as a first line of defense against microbial infections. Upon encountering its ligand TLR3 undergoes conformational changes which allow interaction with the adaptor protein TRIF (TIR-domain-containing adapter-inducing interferon-β). This interaction triggers a downstream signaling

	cascade that leads to the production of type I interferons and pro-inflammatory cytokines which are essential for mounting an effective antiviral response.
Pathways	TLR3 engages in important signaling cascades like the NF-kB and IRF3 pathways. These pathways are activated by the TRIF-dependent pathway which is unique among the Toll-like receptors. TLR3 influences the expression of genes involved in the inflammatory response and apoptosis. The interactions of TLR3 with other proteins such as MyD88 and IRAK1 are indirect as TLR3 does not depend on the usual MyD88-dependent pathway. This specificity makes TLR3 a critical component in pathogen recognition and response strategies within the immune system.
Associated diseases and disorders	TLR3 has connections with several conditions primarily viral infections and autoimmune disorders like systemic lupus erythematosus (SLE). Mutations or dysregulation of TLR3 may lead to altered immune responses contributing to the pathogenesis of these diseases. TLR3's association with proteins like TRIF and IRF3 is significant in understanding its role in these conditions. Ongoing research investigates TLR3's potential as a therapeutic target to modulate immune responses in disease states.

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

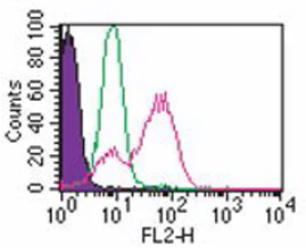
We do not recommend this combination. It is not covered by our product promise.

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.

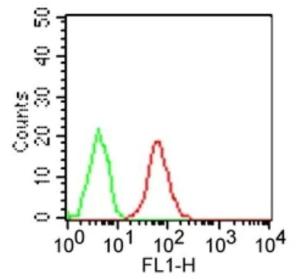
8 product images



Flow Cytometry (Intracellular) - Anti-TLR3 antibody [40C1285] (ab13915)

TLR3 Flow Cytometry (Intracellular) staining using mouse Anti-TLR3 antibody

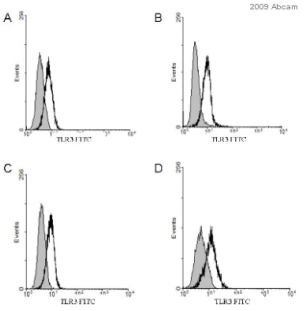
ab13915 at 2µg / 1x106 cells staining intracellular TLR3 in human monocytes by Flow Cyt (Intra). A PE-conjugated goat polyclonal to mouse IgG1 was used as secondary. The shaded histogram repersents monocytes without antibody; green repersents isotype control and red histogram shows staining with ab13915.



Flow Cytometry (Intracellular) - Anti-TLR3 antibody [40C1285] (ab13915)

TLR3 Flow Cytometry (Intracellular) staining using mouse Anti-TLR3 antibody

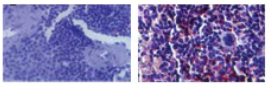
Flow cytometry (Intracellular) analysis of human B cells using ab13915 at 1µg/10^6 cells followed by FITC conjugated secondary antibody (Red). Green shows isotype control.



This image is a courtesy of Tanja Matijevic

Flow Cytometry (Intracellular) - Anti-TLR3 antibody [40C1285] (ab13915)

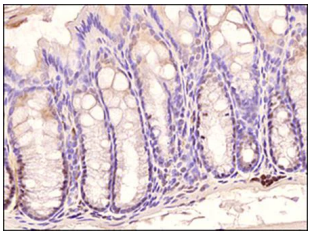
ab13915 staining TLR3 in SW480, SW620 (colon cancer) and FaDu, Detroit 562 obtained from human cells by Flow Cytometry. Samples were prepared by trypsinizining and washing in PBS and centrifugation in a buffer containing 2% FBS, 0.1% Na-azide and PBS. Cells were fixed in paraformaldehyde and permeabilized in 0.2% Tween. Gating and analysis was performed by WinMDI 2.9 software. The primary antibody was diluted to 1 µg/cells (PBS, 2% FBS and 0.1% Na-azide) and incubated with sample for 30 minutes at 4°C. An FITC conjugated rabbit polyclonal to mouse IgG, diluted to 1/40, was used as secondary. Image represents FACS analysis of TLR3 protein expression in SW480 (A), SW620 (B), FaDu (C) and Detroit 562 (D) cell lines. Cell lines were permeabilized and immunostained with TLR3-specific antibody (thick black l



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TLR3 antibody [40C1285] (ab13915)

TLR3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-TLR3 antibody

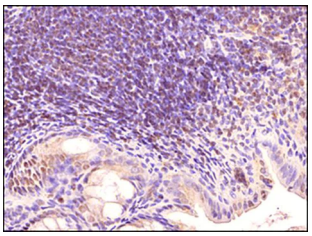
ab13915 at 5ug/ml staining TLR3 in mouse spleen tissue section by Immunohistochemistry (Formalin/ PFA fixed paraffin-embedded sections). The left image repersents staining with isotype control and right one repersents staining with ab13915.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TLR3 antibody [40C1285] (ab13915)

TLR3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-TLR3 antibody

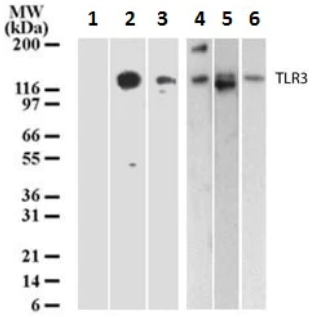
Immunohistochemical analysis of formalin fixed paraffin embedded tissue section of mouse colon using ab13915 at 1/500 dilution with HRP-DAB detection and hematoxylin counterstaining. Intense signal was found in subset of cells at the bases of the crypts.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TLR3 antibody [40C1285] (ab13915)

TLR3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-TLR3 antibody

Immunohistochemical analysis of formalin fixed paraffin embedded tissue section of mouse intestine using ab13915 at 1/500 dilution with HRP-DAB detection and hematoxylin counterstaining. The image shows a punctate staining of the ER and endosomes in a subset of cells in Peyer's patches (organized lymphoid nodules) in the tested section.



Western blot - Anti-TLR3 antibody [40C1285] (ab13915)

All lanes:
Western blot - Anti-TLR3 antibody [40C1285] (ab13915) at 3 µg/mL

Lane 1:
Untransfected HEK293 cell lysate

Lane 2:
HEK293 cell lysate transfected with human TLR3 cDNA whole cell lysate

Lane 3:
Human intestine tissue lysate

Lane 4:
Human placenta tissue lysate

Lane 5:
Human heart tissue lysate

Lane 6:
Human ovary tissue lysate

Secondary

All lanes:
Goat anti-mouse HRP conjugate

Predicted band size: 104 kDa

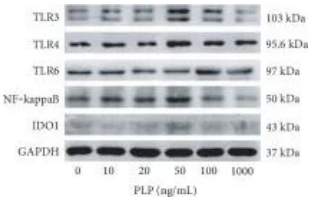


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-TLR3 antibody [40C1285] (ab13915)

TLR3 western blot using anti-TLR3 antibody [40C1285] ab13915. Publication image and figure legend from Li, C., Huang, J., et al., 2019, Stem Cells Int, PubMed 31885603.

ab13915 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab13915 please see the product overview.

Western blot detection of immune-related proteins TLRs, IDO, and NF-κB stimulated by different PLP concentrations. TLR3, TLR4, NF-κB, and IDO had the highest protein expression levels, while TLR6 protein expression was the lowest at 50 ng/mL PLP.

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