abcam

ab20181

Anti-HLA-DR antibody [TAL 1B5]

Anti-HLA-DR antibody [TAL 1B5] (ab20181) is a mouse monoclonal antibody detecting HLA-DR in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 50 publications
- Trusted since 2005

Lab Essentials | Recombinant

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	TAL 1B5
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	0.957 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Flow Cyt

Tested

Species	Human
Dilution info	0.008 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Target data

See full target information HLA-DRA

Function	An alpha chain of antigen-presenting major histocompatibility complex class II (MHCII) molecule. In complex with the beta chain HLA-DRB, displays antigenic peptides on professional antigen presenting cells (APCs) for recognition by alpha-beta T cell receptor (TCR) on HLA-DR-restricted CD4-positive T cells. This guides

antigen-specific T-helper effector functions, both antibody-mediated immune response and macrophage activation, to ultimately eliminate the infectious agents and transformed cells (PubMed:15265931, PubMed:15322540, PubMed:17334368, PubMed:22327072, PubMed:24190431, PubMed:27591323, PubMed:29884618, PubMed:31495665, PubMed:8145819, PubMed:9075930). Typically presents extracellular peptide antigens of 10 to 30 amino acids that arise from proteolysis of endocytosed antigens in lysosomes (PubMed:8145819). In the tumor microenvironment, presents antigenic peptides that are primarily generated in tumor-resident APCs likely via phagocytosis of apoptotic tumor cells or macropinocytosis of secreted tumor proteins (PubMed:31495665). Presents peptides derived from intracellular proteins that are trapped in autolysosomes after macroautophagy, a mechanism especially relevant for T cell selection in the thymus and central immune tolerance (PubMed:17182262, PubMed:23783831). The selection of the immunodominant epitopes follows two processing modes: 'bind first, cut/trim later' for pathogen-derived antigenic peptides and 'cut first, bind later' for autoantigens/self-peptides (PubMed:25413013). The anchor residue at position 1 of the peptide N-terminus, usually a large hydrophobic residue, is essential for high affinity interaction with MHCII molecules (PubMed:8145819).

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

Notes

Anti-HLA-DR antibody [TAL 1B5] (ab20181) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt, ICC/IF, IHC-P, WB in human samples.

Anti-HLA-DR antibody [TAL 1B5] (ab20181) has been cited over 51 times in peer reviewed journals and is trusted by the scientific community.

Abcams high quality manufacturing and validation processes ensure Anti-HLA-DR antibody [TAL 1B5] (ab20181) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-HLA-DR antibody [TAL 1B5] (ab20181) has 6 independent reviews from customers.

Anti-HLA-DR antibody [TAL 1B5] (ab20181) specifically detects HLA-DR (UniProt ID: P01903; Molecular weight: 26kDa) and is sold in 100 ug 1 mg selling sizes.

Conjugation-ready, carrier free format available for antibody clone TAL 1B5 - ab17648.

Antibody clone TAL 1B5 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 647, Alexa Fluor® 488, Alexa Fluor® 555, FITC (ab22397, ab39369, ab3956, ab31774).

HLA-DR is a major histocompatibility complex (MHC) class II receptor involved in presenting antigens to T cells, playing a crucial role in the immune response to tumors. High HLA-DR expression on tumor-infiltrating lymphocytes is associated with better clinical outcomes in certain cancers.

This product has switched from a hybridoma to recombinant production method on 23 September 2022.
What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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

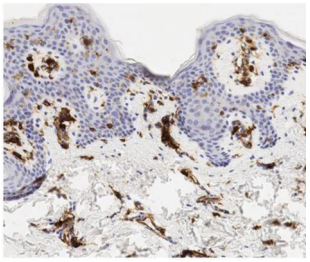
We do not recommend this combination. It is not covered by our product promise.

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.

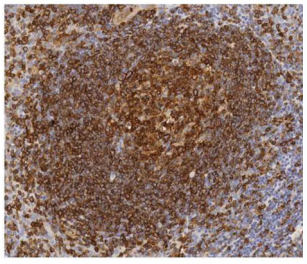
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA-DR antibody [TAL 1B5] (ab20181)

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

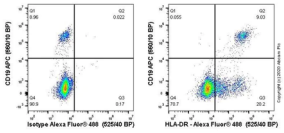
Immunohistochemical analysis of paraffin-embedded human skin tissue labeling HLA-DR with ab20181 at 0.1 µg/ml followed by Leica DS9800 (Bond™ Polymer Refine Detection). The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab20181, 0.1ug/ml, for 15 mins at room temperature and was then detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA-DR antibody [TAL 1B5] (ab20181)

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

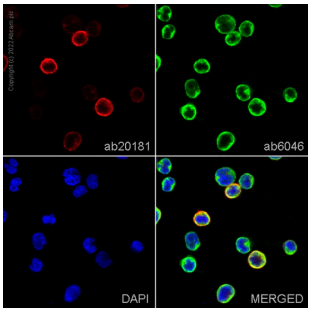
Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling HLA-DR with ab20181 at 0.1 µg/ml followed by Leica DS9800 (Bond™ Polymer Refine Detection). The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab20181, 0.1ug/ml, for 15 mins at room temperature and was then detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Flow Cytometry - Anti-HLA-DR antibody [TAL 1B5] (ab20181)

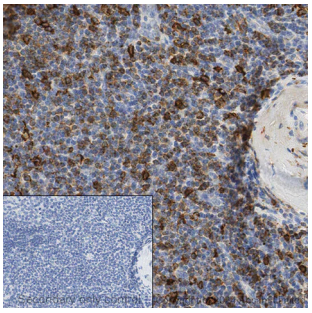
HLA-DR Flow Cytometry staining using mouse Anti-HLA-DR antibody

Flow cytometry staining of human peripheral blood mononuclear cells (PBMCs) with ab20181 (right) or mouse IgG1κ (ab170190) isotype (left). PBMCs were incubated for 30 min on ice in 1x PBS containing 10µg/ml human IgG and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by followed by staining with CD19 APC. PBMCs were then fixed in 4.2% formaldehyde and permeabilised in 0.1% saponin before staining with the antibody (ab20181) or mouse IgG1κ (ab170190) isotype ($1x10^6$ in 100µl; at 0.008µg/ml) for 30 min on ice. The secondary antibody Goat anti-mouse IgG H&L (Alexa Fluor ® 488, pre-adsorbed) (ab150117) was used at 1:2000 dilution for 30 min on ice. Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on alive lymphocytes.



Immunocytochemistry/ Immunofluorescence - Anti-HLA-DR antibody [TAL 1B5] (ab20181)

ab20181 staining HLA DR in Raji cells. The cells were fixed with 4% formaldehyde (10 min), permeabilised in 0.1% Triton X-100 for 5 minutes and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab20181 at 1/1000 dilution and ab7291, Mouse monoclonal to alpha Tubulin at 1/1000 dilution. Cells were then incubated with ab150119, Goat Anti-Mouse IgG H&L (Alexa Fluor® 647) preadsorbed, at 1/1000 dilution (shown in red) and ab150081, Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488), preadsorbed at 1/1000 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

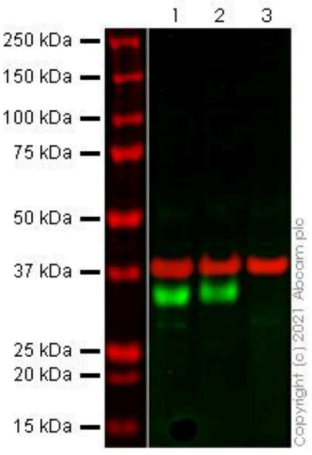


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA-DR antibody [TAL 1B5] (ab20181)

Immunohistochemical analysis of formalin fixed paraffin embedded human tonsil labelling HLA-DR with ab20181 at a concentration of 0.01µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins.

ab20181 Anti-HLA-DR antibody [TAL 1B5] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Western blot - Anti-HLA-DR antibody [TAL 1B5] (ab20181)

HLA-DR Western blot staining using mouse Anti-HLA-DR antibody

Lanes 1-3: Merged signal (red and green). Green - ab20181 observed at 35 kDa. Red - loading control ab181602 (Rabbit Anti-GAPDH antibody [EPR16891]) observed at 37 kDa. ab20181 was shown to react with HLA-DR in Western blot. Membranes were blocked with 3% milk in TBS-T (0.1% Tween®) before incubation with ab20181 and ab181602 (Rabbit Anti-GAPDH antibody [EPR16891]) overnight at 4°C at 1 µg/ml and a 1:20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1:20000 dilution for 1 h at room temperature before imaging.
All lanes:
Western blot - Anti-HLA-DR antibody [TAL 1B5] (ab20181) at 1/1000 dilution

Lane 1:
Raji whole cell lysate at 20 µg

Lane 2:
Daudi whole cell lysate at 20 µg

Lane 3:
HEK-293 whole cell lysate at 20 µg

Secondary

All lanes:

Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/20000 dilution

Developed using the ECL technique.

Observed band size: 35 kDa

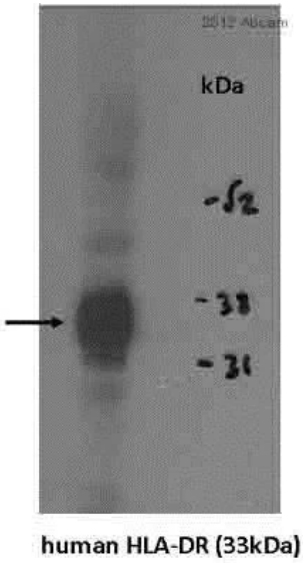


Image courtesy of an anonymous customer review.

Western blot - Anti-HLA-DR antibody [TAL 1B5] (ab20181)

This image was generated from a previous batch made using the hybridoma production method.
All lanes:
Western blot - Anti-HLA-DR antibody [TAL 1B5] (ab20181) at 0.667 µg/mL

All lanes:
whole tissue lysate prepared from human colon at 50 µg

Secondary

All lanes:
HRP conjugated goat anti-mouse polyclonal at 1/3000 dilution

Developed using the ECL technique.

Predicted band size: 29 kDa

Observed band size: 33 kDa

Exposure time: 5s

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