abcam

Product datasheet

Anti-HLA DR + DP + DQ antibody [CR3/43] ab7856

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Overview

Product name	Anti-HLA DR + DP + DQ antibody [CR3/43]
Description	Mouse monoclonal [CR3/43] to HLA DR + DP + DQ
Host species	Mouse
Specificity	The gene of the human histocompatibility complex class II consists of at least four subregions: HLA DP, DQ, and DR, containing a minimum of one alpha and one beta chain. This antibody reacts with the beta-chain of all products of the gene subregions DP, DQ, and DR.
Tested applications	**Suitable for:** IHC-P, WB
Species reactivity	**Reacts with:** Human
Immunogen	Tissue, cells or virus corresponding to Human HLA DR + DP + DQ. Raised against tonsil cells of human origin
Positive control	IHC-P: Human tonsil tissue
General notes	This antibody principally labels B cells, interdigitating reticulum cells, Langerhans' cells and manymacrophages. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.1% Sodium azide Constituent: PBS
Purity	Protein G purified

Primary antibody notes	This antibody principally labels B cells, interdigitating reticulum cells, Langerhans' cells and manymacrophages.
Clonality	Monoclonal
Clone number	CR3/43
Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab7856 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

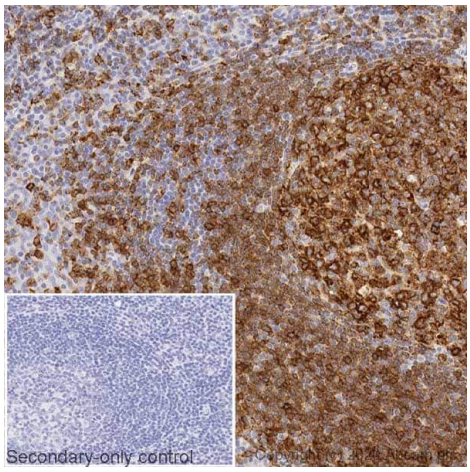
Application	Abreviews	Notes
IHC-P	★★★★★ **(4)**	Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		1/500. Detects a band of approximately 30 kDa (predicted molecular weight: 27 kDa).

Target

Function Binds peptides derived from antigens that access the endocytic route of antigen presenting cells (APC) and presents them on the cell surface for recognition by the CD4 T-cells. The peptide binding cleft accomodates peptides of 10-30 residues. The peptides presented by MHC class II molecules are generated mostly by degradation of proteins that access the endocytic route, where they are processed by lysosomal proteases and other hydrolases. Exogenous antigens that have been endocytosed by the APC are thus readily available for presentation via MHC II molecules, and for this reason this antigen presentation pathway is usually referred to as exogenous. As membrane proteins on their way to degradation in lysosomes as part of their normal turn-over are also contained in the endosomal/lysosomal compartments, exogenous antigens must compete with those derived from endogenous components. Autophagy is also a source of endogenous peptides, autophagosomes constitutively fuse with MHC class II loading compartments. In addition to APCs, other cells of the gastrointestinal tract, such as epithelial cells, express MHC class II molecules and CD74 and act as APCs, which is an unusual trait of the GI tract. To produce a MHC class II molecule that presents an antigen, three MHC class II molecules (heterodimers of an alpha and a beta chain) associate with a CD74 trimer in the ER to form an heterononamer. Soon after the entry of this complex into the endosomal/lysosomal system where antigen processing occurs, CD74 undergoes a sequential degradation by various proteases, including CTSS and CTSL, leaving a small fragment termed CLIP (class-II-associated invariant chain peptide). The removal of CLIP is facilitated by HLA-DM via direct binding to the alpha-beta-CLIP complex so that CLIP is released. HLA-DM stabilizes MHC class II molecules until primary high affinity antigenic peptides are bound. The MHC II molecule bound to a peptide is then transported to the cell membrane surface. In B cells, the interaction between HLA-DM and MHC class II molecules is regulated by HLA-DO. Primary dendritic cells (DCs) also to express HLA-DO. Lysosomal miroenvironment has been implicated in the regulation of antigen loading into MHC II molecules, increased acidification produces increased proteolysis and efficient peptide

	loading.
Sequence similarities	Belongs to the MHC class II family. Contains 1 Ig-like C1-type (immunoglobulin-like) domain.
Cellular localization	Cell membrane. Endoplasmic reticulum membrane. Golgi apparatus > trans-Golgi network membrane. Endosome membrane. Lysosome membrane. The MHC class II complex transits through a number of intracellular compartments in the endocytic pathway until it reaches the cell membrane for antigen presentation.

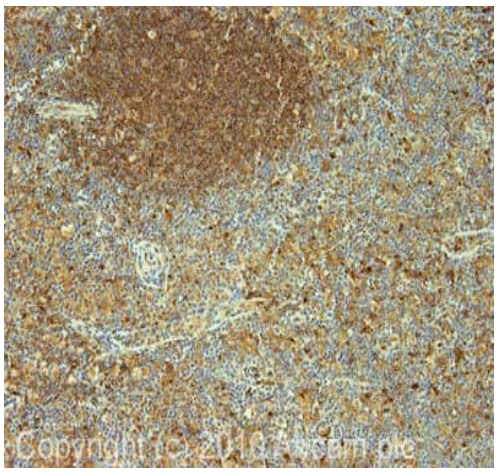
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA DR + DP + DQ antibody [CR3/43] (ab7856)

IHC image of -HLA DR + DP + DQ staining in a section of formalin-fixed paraffin-embedded normal human tonsil* performed on a Leica BOND™ system using the standard protocol **F**. 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 ab7856, 0.05ug/ml, for 15 mins at room temperature and 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. The inset secondary-only control image is taken from an identical assay without primary antibody.

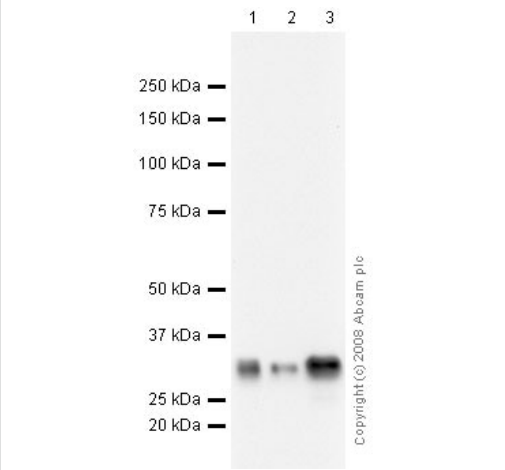
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA DR + DP + DQ antibody [CR3/43] (ab7856)

IHC image of ab7856 staining in human tonsil formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab7856, 1µg/ml, for 15 mins at room temperature and 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.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Western blot - Anti-HLA DR + DP + DQ antibody [CR3/43] (ab7856)

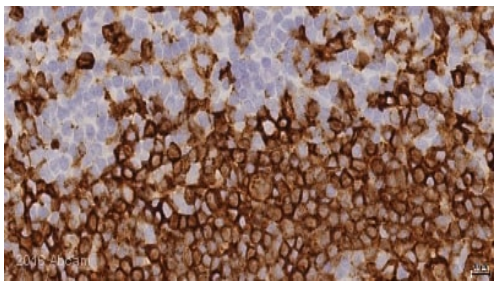
All lanes : Anti-HLA DR + DP + DQ antibody [CR3/43] (ab7856) at 1/500 dilution

Lane 1 : U-87 MG (Human glioblastoma astrocytoma) Whole Cell Lysate
Lane 2 : Human liver tissue lysate - total protein (**ab29889**)
Lane 3 : Lung (Human) Tissue Lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Predicted band size: 27 kDa
Observed band size: 30 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA DR + DP + DQ antibody [CR3/43] (ab7856)
This image is courtesy of an anonymous Abreview

Ab7856 staining HLA DR+DP+DQ in Human Colorectal tissue sections by Immunohistochemistry. Antigen retrieval was by heat mediation at pH6 for 20minutes. Samples were fixed with formaldehyde and blocked with 10% hydrogen peroxide for 5 minutes. Samples were incubated with primary antibody at 1/100 dilution for 15 minutes. HRP rabbit polyclonal polymer refine detection kit was used as the secondary antibody.

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