abcam

Product datasheet

Anti-HLA-DPB1 antibody [SP229] ab227676

Recombinant RabMAb

5 Images

Overview

Product name	Anti-HLA-DPB1 antibody [SP229]
Description	Rabbit monoclonal [SP229] to HLA-DPB1
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, IHC-P, Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide within Human HLA-DPB1 aa 200 to the C-terminus. The exact sequence is proprietary. Database link: P04440
Positive control	IHC-P: Human tonsil tissue; FC: Ramos cells; ICC: Ramos cells.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.6 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Protein A/G purified
Purification notes	Purified from TCS by Protein A/G.
Clonality	Monoclonal
Clone number	SP229
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab227676** 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
ICC/IF		1/10.
IHC-P		1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Primary antibody incubation for 10 minutes at room temperature.
Flow Cyt		1/20 - 1/400. Primary antibody incubation for 10 minutes at 4°C.

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 accommodates 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 a 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 microenvironment has been implicated in the regulation of antigen loading into MHC II molecules, increased acidification produces increased proteolysis and efficient peptide loading.

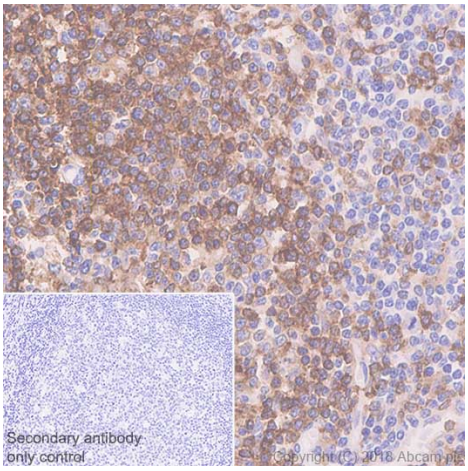
Sequence similarities

Belongs to the MHC class II family.
Contains 1 Ig-like C1-type (immunoglobulin-like) domain.

Cellular localization

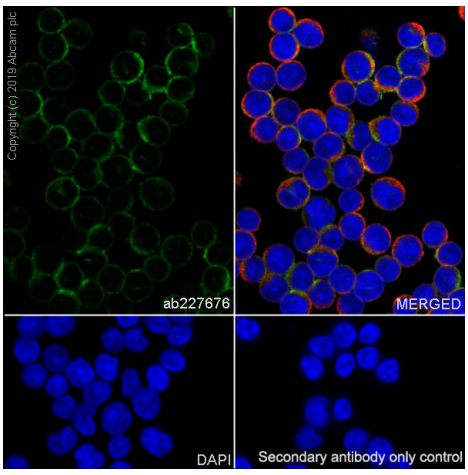
Cell membrane. Endoplasmic reticulum membrane. Golgi apparatus, trans-Golgi network membrane. Endosome membrane. Lysosome membrane. The MHC class II complex transits through a number of intracellular compartments in the endocytic pathway until it reaches the cell membrane for antigen presentation.

Images



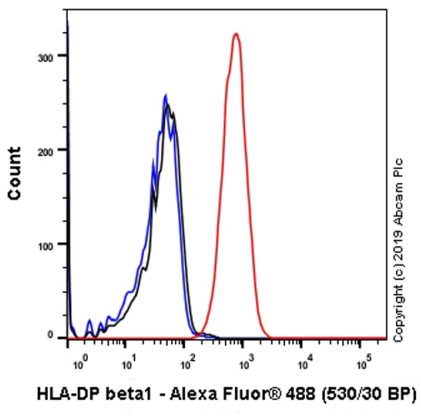
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA-DPB1 antibody [SP229] (ab227676)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human tonsil tissue sections labeling HLA-DPB1 with ab227676 at 1/100 dilution (1.10 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



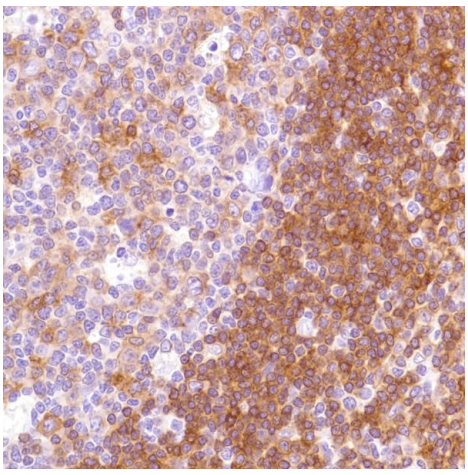
Immunocytochemistry/ Immunofluorescence - Anti-HLA-DPB1 antibody [SP229] (ab227676)

Immunocytochemistry/ Immunofluorescence analysis of Ramos (human Burkitt's lymphoma B lymphocyte) cells labeling HLA-DPB1 with purified ab227676 at 1/10 (10 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



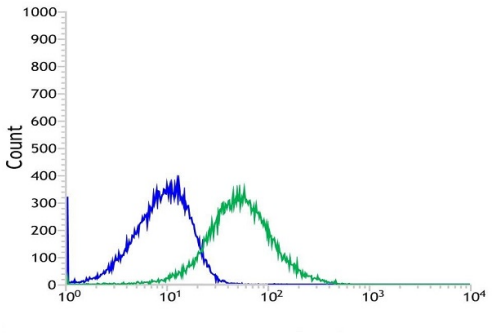
Flow Cytometry - Anti-HLA-DPB1 antibody [SP229] (ab227676)

Flow Cytometry analysis of Ramos (Human Burkitt's lymphoma B lymphocyte) cells labeling HLA-DPB1 with purified ab227676 at 1/20 dilution (5.5 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / blue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA-DPB1 antibody [SP229] (ab227676)

Formalin-fixed, paraffin-embedded human tonsil tissue stained for HLA-DPB1 using ab227676 at 1/100 dilution in immunohistochemical analysis.



Flow Cytometry - Anti-HLA-DPB1 antibody [SP229] (ab227676)

Flow cytometric analysis of Ramos (human Burkitt's lymphoma cell line) cell line labeling HLA-DPB1 with ab227676 at 1/400 dilution (green) compared with a negative control of rabbit IgG (blue).

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