HLA-DPB1 Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13834c

Specification

HLA-DPB1 Antibody (Center) - Product Information

Application	**WB, IHC-P-Leica, FC,E**
Primary Accession	P04440
Other Accession	NP_002112.3
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**77-105**

HLA-DPB1 Antibody (Center) - Additional Information

Gene ID 3115

Other Names
HLA class II histocompatibility antigen, DP beta 1 chain, HLA class II histocompatibility antigen, DP(W4) beta chain, MHC class II antigen DPB1, HLA-DPB1, HLA-DP1B

Target/Specificity
This HLA-DPB1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 77-105 amino acids from the Central region of human HLA-DPB1.

Dilution
WB~~1:1000
IHC-P-Leica~~1:500
FC~~1:25

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
HLA-DPB1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

HLA-DPB1 Antibody (Center) - Protein Information

Name HLA-DPB1

Synonyms HLA-DP1B

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.

Cellular Location
Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein. Golgi apparatus, trans-Golgi network membrane; Single-pass type I membrane protein. Endosome membrane; Single-pass type I membrane protein. Lysosome membrane; Single-pass type I membrane protein Note=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
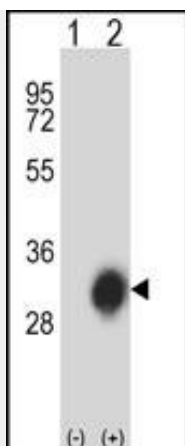
HLA-DPB1 Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytomety](#)
- [Cell Culture](#)

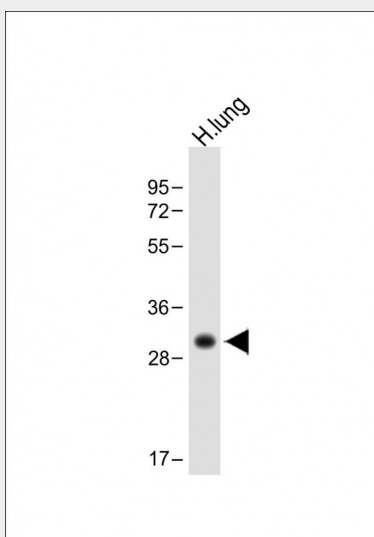**HLA-DPB1 Antibody (Center) - Images**
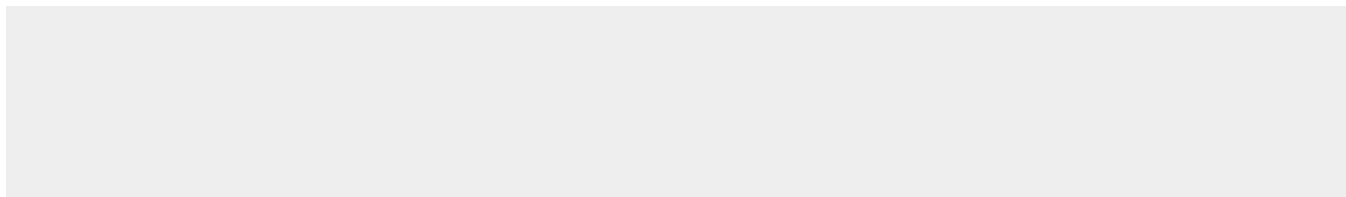
Western blot analysis of HLA-DPB1 (arrow) using rabbit polyclonal HLA-DPB1 Antibody (Center) (Cat. #AP13834c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the HLA-DPB1 gene.
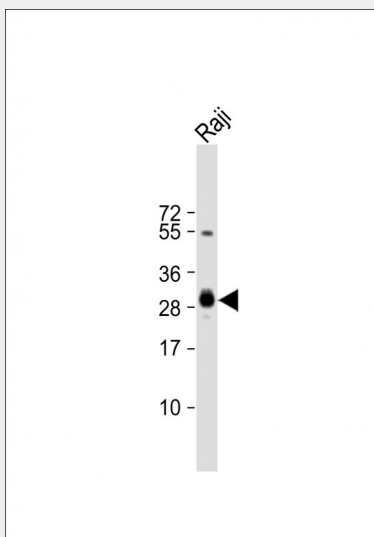

Anti-HLA-DPB1 Antibody (Center) at 1:4000 dilution + Raji whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 29 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Anti-HLA-DPB1 Antibody (Center) at 1:1000 dilution + Human lung lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 30 kDa Blocking/Dilution buffer: 5% NFDM/TBST.
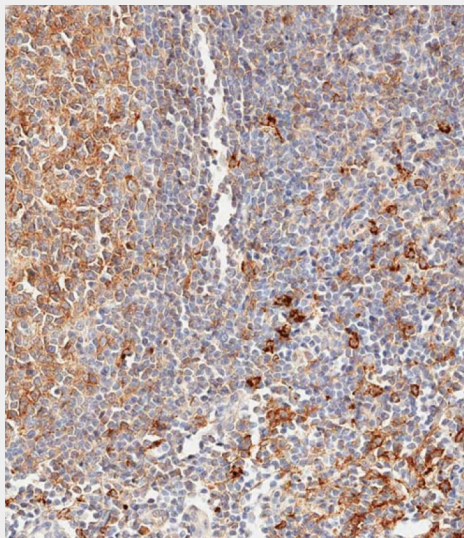
Immunohistochemical analysis of paraffin-embedded human lymph node tissue using AP13834c performed on the Leica® BOND RXm. Samples were incubated with primary antibody(1/500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.
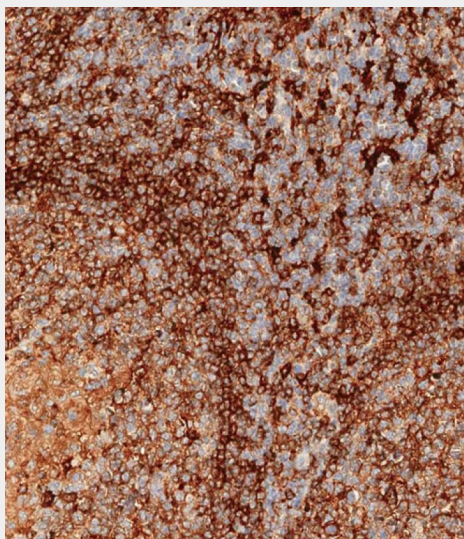
Immunohistochemical analysis of paraffin-embedded human tonsil tissue using AP13834c performed on the Leica® BOND RXm. Samples were incubated with primary antibody(1/500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.
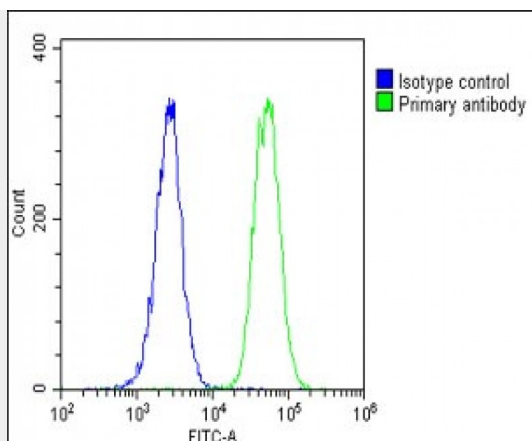
Overlay histogram showing U-2 OS cells stained with AP13834c(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP13834c, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(1583138) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

HLA-DPB1 Antibody (Center) - Background

HLA-DPB belongs to the HLA class II beta chain paralogues. This class II molecule is a heterodimer consisting of an alpha (DPA) and a beta chain (DPB), both anchored in the membrane. It plays a central role in the immune system by presenting peptides derived from extracellular proteins. Class II molecules are expressed in antigen presenting cells (APC: B lymphocytes, dendritic cells, macrophages). The beta chain is approximately 26-28 kDa and its gene contains 6 exons. Exon one encodes the leader peptide, exons 2 and 3 encode the two extracellular domains, exon 4 encodes the transmembrane domain and exon 5 encodes the cytoplasmic tail. Within the DP molecule both the alpha chain and the beta chain contain the polymorphisms specifying the peptide binding specificities, resulting in up to 4 different molecules.

HLA-DPB1 Antibody (Center) - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Yang, J.H., et al. Tissue Antigens 76(4):282-288(2010)
Wang, P., et al. Lin Chung Er Bi Yan Hou Tou Jing Wai Ke Za Zhi 24(6):261-263(2010)
Ovsyannikova, I.G., et al. PLoS ONE 5 (7), E11806 (2010) :
Mychaleckyj, J.C., et al. Clin Trials 7 (1 SUPPL), S75-S87 (2010) :