10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HLA-DRB1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5127

Product Information

Application	IHC-P, WB
Primary Accession	P04229
Other Accession	Q30154
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	30 KDa
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Antigen Region	103-137
Other Names	HLA class II histocompatibility antigen, DRB1-1 beta chain, MHC class II antigen DRB1*1, DR-1, DR1, HLA-DRB1
Dilution	IHC-P~~1:100~500 WB~~1:1000
Target/Specificity	This HLA-DRB1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 103-137 amino acids from the Central region of human HLA-DRB1.
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-DRB1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Background

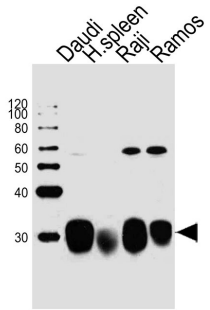
Binds peptides derived from antigens that access the endocytic route of antigen presenting cells (APC) and presents them on the cell surface for recognition by the CD4 T-cells. The peptide binding cleft accommodates peptides of 10-30 residues. The peptides presented by MHC class II molecules are generated

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.

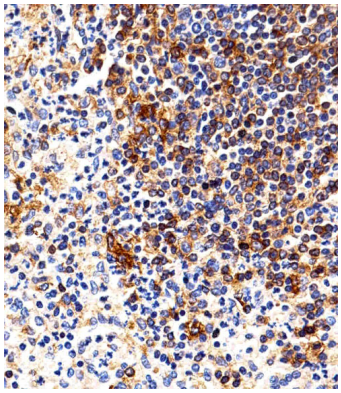
References

Tonnelle C.,et al.EMBO J. 4:2839-2847(1985).
Bell J.I.,et al.Proc. Natl. Acad. Sci. U.S.A. 82:3405-3409(1985).
Coppin H.L.,et al.J. Immunol. 144:984-989(1990).
Raymond C.K.,et al.Genome Res. 15:1250-1257(2005).
von Salome J.,et al.Immunogenetics 59:261-271(2007).

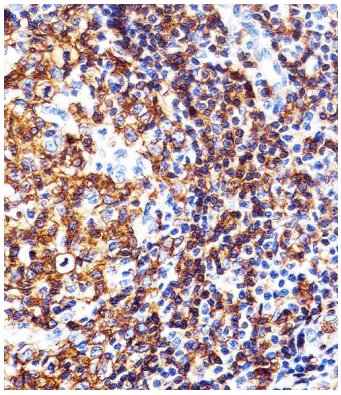
Images



Western blot analysis of lysates from Daudi cell line,human spleen tissue,Raji,Ramos cell line (from left to right), using HLA-DRB1 Antibody (Center)(Cat. #AW5127). AW5127 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.



Immunohistochemical analysis of paraffin-embedded H. spleen section using HLA-DRB1 Antibody (Center)(Cat#AW5127). AW5127 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded H. tonsil section using HLA-DRB1 Antibody (Center)(Cat#AW5127). AW5127 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.