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Anti-HLA-DP/-DQ/-DR (MHC II) Antibody

Mouse Monoclonal Antibody
Catalog # AH13295

Product Information

Application	IHC-P, IF
Primary Accession	P04440
Other Accession	P01908, P01909, P01920 (HLA-DQ), P01903 (HLA-DR), 347270 (HLA-DP), 550475 (HLA-DQ), 520048 (HLA-DR) (HLA-DP), 3117 (HLA-DQ), 3122 (HLA-DR)
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1
Clone Names	CR3/43
Calculated MW	29159

Additional Information

Gene ID	3115
Other Names	HLA-DPB1; HLA-DQA1; HLA-DQB1; HLA-DRA; HLA-DRB1; HLA-DRB3; HLA-DRB4; HLA-DRB5;
Application Note	Immunofluorescence (0.5-1ug/ml); ,Immunohistology (Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate Buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes); ,Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-HLA-DP/-DQ/-DR (MHC II) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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

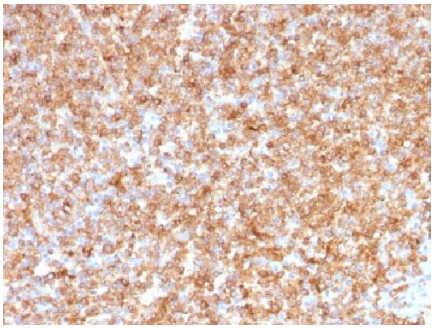
Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein. Golgi apparatus, trans-Golgi network membrane; Single-pass type I membrane protein. Endosome membrane; Single-pass type I membrane protein. Lysosome membrane; Single-pass type I membrane 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

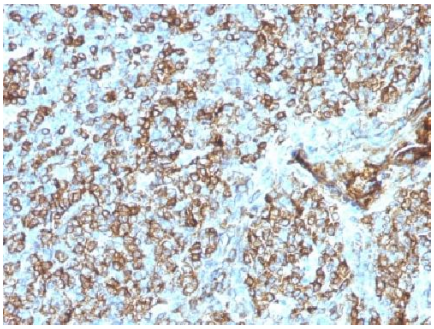
Background

Reacts with a common epitope of human major histocompatibility (MHC) class II antigens, HLA-DP, -DQ and -DR. Human MHC class II antigens are transmembrane glycoproteins composed of an □chain (36kDa) and a □chain (27kDa). They are expressed primarily on antigen presenting cells such as B lymphocytes, monocytes, macrophages, and thymic epithelial cells and are also present on activated T lymphocytes. Human MHC class II genes are located in the HLA-D region that encodes at least six □and ten □chain genes. Three loci, DR, DQ and DP, encode the major expressed products of the human class II region. The human MHC class II molecules bind intracellularly processed peptides and present them to T-helper cells. They, therefore, have a critical role in the initiation of the immune response. It has been shown that some autoimmune diseases are associated with certain class II alleles.

Images

Formalin-fixed, paraffin-embedded human Tonsil stained with HLA-DP/-DQ/-DR Monoclonal Antibody (CR3/43).





Formalin-fixed, paraffin-embedded human Tonsil stained with HLA-DP/-DQ/-DR Monoclonal Antibody (CR3/43).

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