

HLA-DRB (MHC II) Antibody - With BSA and Azide Mouse Monoclonal Antibody [Clone SPM289] Catalog # AH11440

Specification

HLA-DRB (MHC II) Antibody - With BSA and Azide - Product Information

Application Primary Accession Other Accession Reactivity Host Clonality Isotype Calculated MW ,1,2,3,4, <u>P01911</u> <u>3123, 534322</u> Human Mouse Monoclonal Mouse / IgG2b, kappa ~28kDa (beta chain) KDa

HLA-DRB (MHC II) Antibody - With BSA and Azide - Additional Information

Gene ID 3123

Other Names HLA class II histocompatibility antigen, DRB1-15 beta chain, DW2.2/DR2.2, MHC class II antigen DRB1*15, HLA-DRB1, HLA-DRB2

Storage Store at 2 to 8°C.Antibody is stable for 24 months.

Precautions HLA-DRB (MHC II) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

HLA-DRB (MHC II) Antibody - With BSA and Azide - Protein Information

Name HLA-DRB1 (HGNC:4948)

Function

A beta chain of antigen-presenting major histocompatibility complex class II (MHCII) molecule. In complex with the alpha chain HLA- DRA, displays antigenic peptides on professional antigen presenting cells (APCs) for recognition by alpha-beta T cell receptor (TCR) on HLA-DRB1-restricted CD4-positive T cells. This guides antigen-specific T-helper effector functions, both antibody-mediated immune response and macrophage activation, to ultimately eliminate the infectious agents and transformed cells (PubMed:29884618, PubMed:22327072, PubMed:27591323, PubMed:8642306, PubMed:15265931, PubMed:1648104). Typically



presents extracellular peptide antigens of 10 to 30 amino acids that arise from proteolysis of endocytosed antigens in lysosomes (PubMed:8145819). In the tumor microenvironment, presents antigenic peptides that are primarily generated in tumor- resident APCs likely via phagocytosis of apoptotic tumor cells or macropinocytosis of secreted tumor proteins (PubMed:31495665). Presents peptides derived from intracellular proteins that are trapped in autolysosomes after

macroautophagy, a mechanism especially relevant for T cell selection in the thymus and central immune tolerance (PubMed:http://www.uniprot.org/citations/17182262

target="_blank">17182262, PubMed:23783831). The selection of the immunodominant epitopes follows two processing modes: 'bind first, cut/trim later' for pathogen-derived antigenic peptides and 'cut first, bind later' for autoantigens/self-peptides (PubMed:25413013). The anchor residue at position 1 of the peptide N-terminus, usually a large hydrophobic residue, is essential for high affinity interaction with MHCII molecules (PubMed:8145819).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein. Lysosome membrane; Single-pass type I membrane protein. Late endosome membrane; Single-pass type I membrane protein. Autolysosome membrane 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 (PubMed:18305173). Component of immunological synapses at the interface between T cell and APC (PubMed:29884618).

Tissue Location

Expressed in professional APCs: monocyte/macrophages, dendritic cells and B cells (at protein level) (PubMed:31495665, PubMed:23783831, PubMed:19830726). Expressed in thymic epithelial cells (at protein level) (PubMed:23783831)

HLA-DRB (MHC II) Antibody - With BSA and Azide - Protocols

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

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

HLA-DRB (MHC II) Antibody - With BSA and Azide - Images





Formalin-fixed, paraffin-embedded human Tonsil stained with HLA-DRB Monoclonal Antibody (SPM289).

HLA-DRB (MHC II) Antibody - With BSA and Azide - Background

This MAb reacts with the beta-chain of HLA-DR antigen, a member of MHC class II molecules. It does not cross react with HLA-DP and HLA-DQ. The L243 antibody recognizes a different epitope than the SPM289 monoclonal antibody, and these antibodies do not cross-block binding to each other's respective epitopes. HLA-DR is a heterodimeric cell surface glycoprotein comprised of a 36kDa alpha (heavy) chain and a 28kDa beta (light) chain. It is expressed on B-cells, activated T-cells, monocytes/macrophages, dendritic cells and other non-professional APCs. In conjunction with the CD3/TCR complex and CD4 molecules, HLA-DR is critical for efficient peptide presentation to CD4+ T cells. It is an excellent histiocytic marker in paraffin sections producing intense staining. True histiocytic neoplasms are similarly positive. HLA-DR antigens also occur on a variety of epithelial cells and their corresponding neoplastic counterparts.

HLA-DRB (MHC II) Antibody - With BSA and Azide - References

Johnson MD; Glick AD; Davis BW. Immunohistochemical evaluation of Leu-7, myelin basic-protein, S100-protein, glial-fibrillary acidic-protein, and LN3 immunoreactivity in nerve sheath tumors and sarcomas. Archives of Pathology and Laboratory Medicine, 1988, 112(2):155-60