

HLA-Drb1 Antibody

Rabbit mAb Catalog # AP92063

Product Information

Application	WB, IHC, IF, ICC, IHF
Primary Accession	<u>P01911</u>
Clonality Other Names	Human Monoclonal HLA-Drb1; DW2.2/DR2.2;
lsotype	Rabbit IgG
Host	Rabbit
Calculated MW	29966

Additional Information

Dilution Purification	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 Affinity-chromatography
Immunogen	A synthesized peptide derived from human HLA-Drb1
Description	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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	HLA-DRB1 (<u>HGNC:4948</u>)
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:15265931, PubMed:16148104, PubMed:22327072, PubMed:27591323, PubMed:29884618, PubMed:31495665, PubMed:8642306). 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: <u>17182262</u> , PubMed: <u>23783831</u>). 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: <u>25413013</u>). 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: <u>8145819</u>).
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:19830726, PubMed:23783831, PubMed:31495665). Expressed in thymic epithelial cells (at protein level) (PubMed:23783831)

Images



Western blot analysis of HLA-Drb1 expression in Ramos cell lysate.

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