

**HLA-DRB (MHC II) Antibody - With BSA and Azide**  
**Mouse Monoclonal Antibody [Clone L243 ]**  
**Catalog # AH11451**

## Specification

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

Application	,3,4,
Primary Accession	<a href="#">P01911</a>
Other Accession	<a href="#">3123</a> , <a href="#">534322</a>
Reactivity	Human, Monkey, Baboon, Squirrel, Chimpanzee, Dog
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2a, kappa
Calculated MW	~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:<a href="http://www.uniprot.org/citations/15265931" target="\_blank">15265931</a>, PubMed:<a href="http://www.uniprot.org/citations/16148104" target="\_blank">16148104</a>, PubMed:<a href="http://www.uniprot.org/citations/22327072" target="\_blank">22327072</a>, PubMed:<a href="http://www.uniprot.org/citations/27591323" target="\_blank">27591323</a>, PubMed:<a href="http://www.uniprot.org/citations/29884618" target="\_blank">29884618</a>, PubMed:<a href="http://www.uniprot.org/citations/31495665" target="\_blank">31495665</a>, PubMed:<a

<http://www.uniprot.org/citations/8642306> target="\_blank">8642306</a>). Typically presents extracellular peptide antigens of 10 to 30 amino acids that arise from proteolysis of endocytosed antigens in lysosomes (PubMed:<a href="http://www.uniprot.org/citations/8145819" target="\_blank">8145819</a>). 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:<a href="http://www.uniprot.org/citations/31495665" target="\_blank">31495665</a>). 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:<a href="http://www.uniprot.org/citations/17182262" target="\_blank">17182262</a>, PubMed:<a href="http://www.uniprot.org/citations/23783831" target="\_blank">23783831</a>). 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:<a href="http://www.uniprot.org/citations/25413013" target="\_blank">25413013</a>). 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:<a href="http://www.uniprot.org/citations/8145819" target="\_blank">8145819</a>).

### 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)

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

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

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

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

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

This MAb reacts with the HLA-DRB1 antigen, a member of MHC class II molecules. It does not cross react with HLA-DP and HLA-DQ. It binds a conformational epitope on HLA-DR, which depends on the correct folding of the  $\alpha\beta$  heterodimer. This MAb has been reported to block mixed lymphocyte reactions. The L243 antibody recognizes a different epitope than the LN3 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 36kD alpha (heavy) chain and a 28kD 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**

Horejsi, V., et al. 1986. Characterization of seven new monoclonal antibodies against human DR, DR + DP and DQ1 + DQ3 antigens. *Tissue Antigens* 28: 288-297. | Brodsky FM. A matrix approach to human class II histocompatibility antigens: reactions of four monoclonal antibodies with the products of nine haplotypes. *Immunogenetics*. 1984;19(3):179-94 | Engleman EG, Warnke R, Fox RI, Dilley J, Benike CJ, Levy R. Studies of a human T lymphocyte antigen recognized by a monoclonal antibody. *Proc Natl Acad Sci U S A*. 1981;78(3):1791-5