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

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

Mouse Monoclonal Antibody [Clone SPM288 ]
Catalog # AH11443

## Product Information

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| **Application** | WB, IHC, IF, FC |
| **Primary Accession** | P01911 |
| **Other Accession** | 3123, 534322 |
| **Reactivity** | Human, Mouse, Monkey |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | Mouse / IgG2b, kappa |
| **Clone Names** | SPM288 |
| **Calculated MW** | 29966 |

## Additional Information

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| **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 |
| **Application Note** | WB~~1:1000 IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50 |
| **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. |

## Protein Information

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| **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: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 |

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| | 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: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:19830726, PubMed:23783831, PubMed:31495665). Expressed in thymic epithelial cells (at protein level) (PubMed:23783831) |

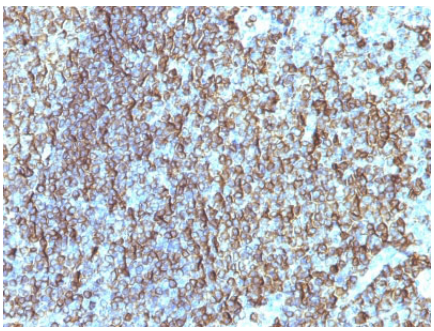
## Background

This MAb reacts with a 28kDa chain of HLA-DRB1 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 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 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. Loss of HLA-DR expression is related to tumor microenvironment and predicts adverse outcome in diffuse large B-cell lymphoma.

## References

Marder RJ, et al. 1985. Lab. Invest. 52:497.2. Norton AJ and Isaacson PG. 1987. Am. J. Pathol. 128:225.3. Hua ZX, et al. 1998. Hum. Pathol. 29(12):1441

## Images



Formalin-fixed, paraffin-embedded human Tonsil stained with HLA-DRB Monoclonal Antibody (SPM288).

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