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

Mouse Monoclonal Antibody [Clone SPM421 ]
Catalog # AH11421

## Product Information

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| **Application** | IHC, IF, FC |
| **Primary Accession** | P04440 |
| **Other Accession** | 3115, 347270 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | Mouse / IgG2b, kappa |
| **Clone Names** | SPM421 |
| **Calculated MW** | 29159 |

## Additional Information

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| **Gene ID** | 3115 |
| **Other Names** | HLA class II histocompatibility antigen, DP beta 1 chain, HLA class II histocompatibility antigen, DP(W4) beta chain, MHC class II antigen DPB1, HLA-DPB1, HLA-DP1B |
| **Application Note** | 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-DP (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-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 |

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| | 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

Recognizes a non-polymorphic determinant of DP-MHC class II. MHC class II antigens are transmembrane glycoproteins of non-covalently linked α (33-35kDa) and β (27-30kDa) chains. It reportedly reacts with B- & non-T, non-B cell lines but not with T- and myeloid cell lines and leukemias. Differential expression of MHC class II antigens on fetal and adult lymphocytes, malignant B cells appears to reflect the stage of cell differentiation which may be useful in the study of lymphoproliferative disorders.

## References

Babusikova O; Ujhazy P; Hrivnakova A; Chorvath B; Polakova K. Studies on the distribution of the antigens detected by some newly prepared monoclonal antibodies in normal hemopoietic and leukemic cells. Neoplasma, 1985, 32(6):657-62. | Polakova K; Chorvath B; Sedlak J; Duraj J; Matoska J; Karpatova M. Monoclonal antibodies against MHC class II antigens elicited with a human non-T, non-B acute lymphoblastic leukemia cell line. Neoplasma, 1985, 32(6):641-8. | Neoplasma 34(4), 417- 425, (1987). | Horejsi V, et. al. Tissue Antigens, 1988, 32(1):6-11. |