HLA class II histocompatibility antigen, DQ alpha 1 chain Polyclonal Antibody

Catalog No: #42590

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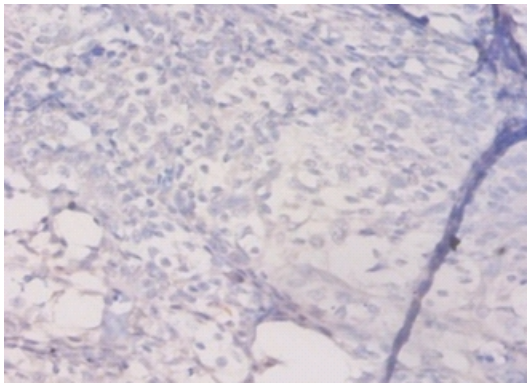
Description

Product Name	HLA class II histocompatibility antigen, DQ alpha 1 chain Polyclonal Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Caprylic Acid Ammonium Sulfate Precipitation purified
Applications	IHC
Species Reactivity	Hu
Specificity	The antibody detects endogenous level of total HLA class II histocompatibility antigen, DQ alpha 1 chain polyclonal antibody.
Immunogen Type	protein
Immunogen Description	Recombinant human HLA class II histocompatibility antigen, DQ alpha 1 chain
Target Name	HLA class II histocompatibility antigen, DQ alpha 1 chain
Other Names	DC-1 alpha chain, DC-alpha, HLA-DCA, MHC class II DQA1
Accession No.	Swiss-Prot#: P20036
Uniprot	P20036
GeneID	3113;
Formulation	Preservative: 0.03% Proclin 300 Constituents: 50% Glycerol, 0.01M PBS, PH 7.4
Storage	Store at -20°C

Application Details

Immunohistochemistry: 1:20 - 1:200

Images



Immunohistochemical analysis of paraffin-embeded human prostate using #42590 at dilution of 1:50.

Background

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 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 miroenvironment has been implicated in the regulation of antigen loading into MHC II molecules, increased acidification produces increased proteolysis and efficient peptide loading.

References

[1] "The heavy chain of human B-cell alloantigen HLA-DS has a variable N-terminal region and a constant immunoglobulin-like region."Chang H.-C., Moriuchi T., Silver J.Nature 305:813-815(1983) [2] "Both alpha and beta chains of HLA-DC class II histocomp

Note: This product is for in vitro research use only