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HLA-DRA Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP6799a

Specification

HLA-DRA Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P01903

HLA-DRA Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 3122

Other Names
HLA class II histocompatibility antigen, DR alpha chain, MHC class II antigen DRA, HLA-DRA, HLA-DRA1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP6799a was selected from the N-term region of human HLA-DRA. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

HLA-DRA Antibody (N-term) Blocking Peptide - Protein Information

Name HLA-DRA

Synonyms HLA-DRA1

Function
An alpha chain of antigen-presenting major histocompatibility complex class II (MHCII) molecule. In complex with the beta chain HLA- DRB, displays antigenic peptides on professional antigen presenting cells (APCs) for recognition by alpha-beta T cell receptor (TCR) on HLA-DR-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:29884618, PubMed:17334368, PubMed:8145819, PubMed:<a

href="http://www.uniprot.org/citations/15322540" target="_blank">15322540, PubMed:22327072, PubMed:27591323, PubMed:31495665, PubMed:15265931, PubMed:9075930, PubMed:24190431). 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: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. Early endosome membrane; Single-pass type I membrane protein. Late endosome membrane; Single-pass type I membrane protein. Lysosome membrane; Single-pass type I membrane protein. Autolysosome membrane; Single-pass type I membrane protein. Note=The MHCII complex transits through a number of intracellular compartments in the endocytic pathway until it reaches the cell membrane for antigen presentation (PubMed:9075930, PubMed:18305173). Component of immunological synapses at the interface between T cell and APC (PubMed:15322540, PubMed:29884618).

Tissue Location
Expressed in professional APCs: macrophages, dendritic cells and B cells (at protein level) (PubMed:31495665, PubMed:15322540, PubMed:23783831). Expressed in thymic epithelial cells (at protein level) (PubMed:23783831).

HLA-DRA Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

HLA-DRA Antibody (N-term) Blocking Peptide - Images

HLA-DRA Antibody (N-term) Blocking Peptide - Background

HLA-DRA is one of the HLA class II alpha chain paralogues. This class II molecule is a heterodimer consisting of an alpha and a beta chain, both anchored in the membrane. It plays a central role in the immune system by presenting peptides derived from extracellular proteins. Class II molecules are expressed in antigen presenting cells (APC: B lymphocytes, dendritic cells, macrophages).

HLA-DRA Antibody (N-term) Blocking Peptide - References

De Jager, et.al., Nat. Genet. 41 (7), 776-782 (2009)