

# HLA-DRA Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP6799b

## Product Information

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<b>Application</b>	WB, FC, E
<b>Primary Accession</b>	<a href="#">P01903</a>
<b>Reactivity</b>	Human
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB19527
<b>Calculated MW</b>	28621
<b>Antigen Region</b>	149-177

## Additional Information

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<b>Gene ID</b>	3122
<b>Other Names</b>	HLA class II histocompatibility antigen, DR alpha chain, MHC class II antigen DRA, HLA-DRA, HLA-DRA1
<b>Target/Specificity</b>	This HLA-DRA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 149-177 amino acids from the C-terminal region of human HLA-DRA.
<b>Dilution</b>	WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	HLA-DRA Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	HLA-DRA
<b>Synonyms</b>	HLA-DRA1
<b>Function</b>	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:[15265931](#), PubMed:[15322540](#), PubMed:[17334368](#), PubMed:[22327072](#), PubMed:[24190431](#), PubMed:[27591323](#), PubMed:[29884618](#), PubMed:[31495665](#), PubMed:[8145819](#), PubMed:[9075930](#)). 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:18305173, PubMed:9075930). 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:15322540, PubMed:23783831, PubMed:31495665). Expressed in thymic epithelial cells (at protein level) (PubMed:23783831).

## Background

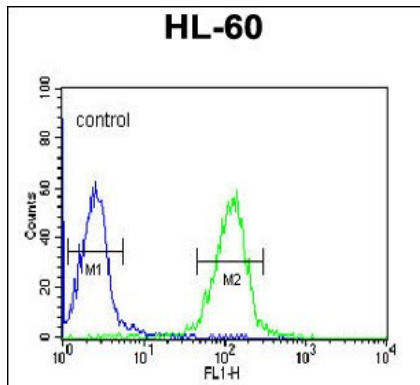
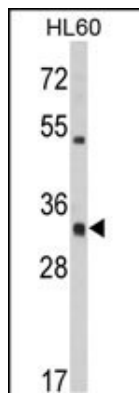
HLA-DRA is one of the HLA class II alpha chain paralogues. This class II molecule is a heterodimer consisting of an alpha and a beta chain, both anchored in the membrane. It plays a central role in the immune system by presenting peptides derived from extracellular proteins. Class II molecules are expressed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

## References

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

## Images

Western blot analysis of HLA-DRA Antibody (C-term) (Cat. #AP6799b) in HL60 cell line lysates (35ug/lane). HLA-DRA (arrow) was detected using the purified Pab.



HLA-DRA Antibody (C-term) (Cat. #AP6799b) flow cytometric analysis of HL-60 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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