

### PE Anti-HLA-DR antibody [MEM-267] $\alpha$ b64676

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#### Overview

<b>Product name</b>	PE Anti-HLA-DR antibody [MEM-267]
<b>Description</b>	PE Mouse monoclonal [MEM-267] to HLA-DR
<b>Host species</b>	Mouse
<b>Conjugation</b>	PE. Ex: 488nm, Em: 575nm
<b>Specificity</b>	Reacts with immature dendritic cells that express empty cell surface MHC molecules, but not cells that express predominantly peptide loaded forms; reacts specifically with the empty but not peptide-loaded form of HLA-DR1.
<b>Tested applications</b>	<b>Suitable for:</b> Flow Cyt
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Recombinant full length protein corresponding to Human HLA-DR.
<b>General notes</b>	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C.
<b>Storage buffer</b>	<p>pH: 7.4</p> <p>Preservative: 0.097% Sodium azide</p> <p>Constituents: PBS, 0.2% BSA</p>
<b>Purity</b>	Size exclusion
<b>Purification notes</b>	The purified antibody (>95% by SDS-PAGE) is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography.
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	MEM-267

Isotype

IgG2b

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab64676 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use a concentration of 9 mg/ml.

## Target

### 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 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 an 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.

### Sequence similarities

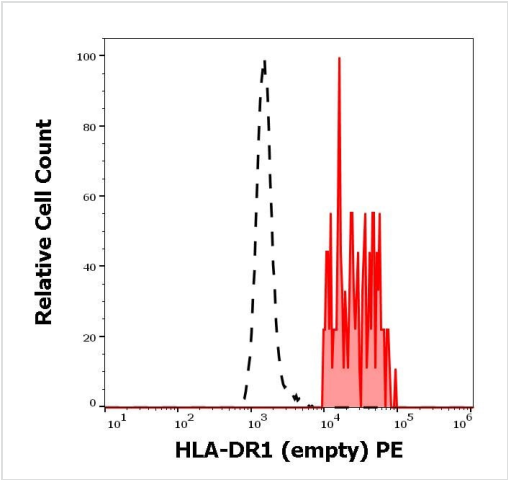
Belongs to the MHC class II family.  
Contains 1 Ig-like C1-type (immunoglobulin-like) domain.

### Post-translational modifications

Ubiquitinated by MARCH1 or MARCH8 at Lys-244 leading to down-regulation of MHC class II. When associated with ubiquitination of the beta subunit of HLA-DR: HLA-DRB4 'Lys-254', the down-regulation of MHC class II may be highly effective.

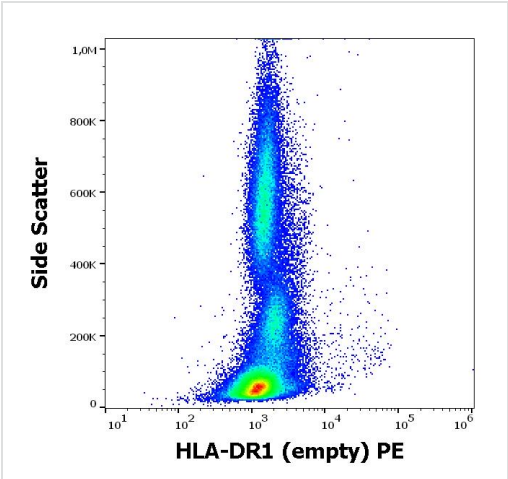
### Cellular localization

Cell membrane. Endoplasmic reticulum membrane. Golgi apparatus > trans-Golgi network membrane. Endosome membrane. Lysosome membrane. Late endosome membrane. 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.



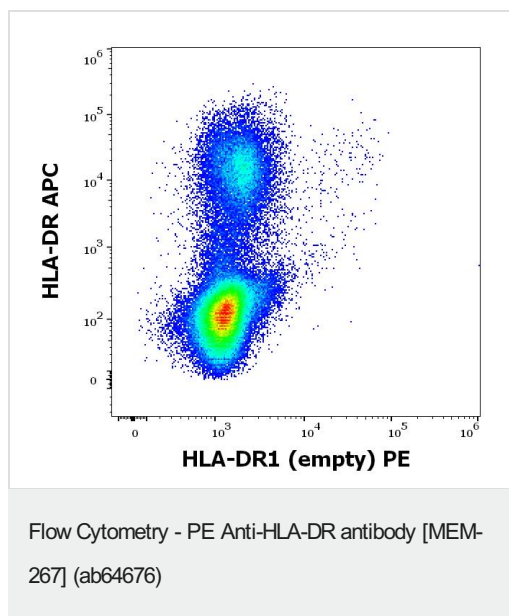
Flow Cytometry - PE Anti-HLA-DR antibody [MEM-267] (ab64676)

Separation of human HLA-DR1 (empty) positive HLA-DR positive cells (red-filled) from neutrophil granulocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using ab64676 at 9 µg/ml.



Flow Cytometry - PE Anti-HLA-DR antibody [MEM-267] (ab64676)

Flow cytometry surface staining pattern of human peripheral whole blood stained using ab64676 at 9 µg/ml.



Flow cytometry multicolor surface staining pattern of human peripheral whole blood stained using ab64676 at 9 µg/ml and anti-human HLA-DR (APC antibody at 10 µl reagent / 100 µl of peripheral whole blood).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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