

ARG22785 anti-HLA DR antibody [YE2/36-HLK] (FITC)

Package: 50 µg
Store at: 4°C

Summary

Product Description	<p>FITC-conjugated Rat Monoclonal antibody [YE2/36-HLK] recognizes HLA DR</p> <p>This antibody recognizes a monomorphic determinant of Human HLA DR which is an MHC class II cell surface receptor expressed primarily on antigen presenting cells such as B lymphocytes, monocytes, macrophages and activated T lymphocytes.</p> <p>The major histocompatibility complex (MHC) is a cluster of genes that are important in the immune response to infections. In Humans, this complex is referred to as the Human leukocyte antigen (HLA) region. There are 3 major MHC class II proteins encoded by the HLA which are HLA DP, HLA DQ and HLA DR.</p> <p>Rat anti Human HLA DR antibody, clone YE2/36-HLK has also been reported to be cross reactive with mouse H-2 haplotypes b, d and q expressed by mouse strains including C57BL/6, DBA, and NZB (Brickell, P. M. et al. 1981).</p>
Tested Reactivity	Hu
Tested Application	FACS
Host	Rat
Clonality	Monoclonal
Clone	YE2/36-HLK
Isotype	IgG2a
Target Name	HLA DR
Species	Human
Immunogen	EHR-B Ramos cells.
Conjugation	FITC
Alternate Names	MLRW; HLA class II histocompatibility antigen, DR alpha chain; HLA-DRA1; MHC class II antigen DRA

Application Instructions

Application table	<table> <tr> <th>Application</th><th>Dilution</th></tr> <tr> <td>FACS</td><td>Neat - 1:10</td></tr> </table>	Application	Dilution	FACS	Neat - 1:10
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FACS	Neat - 1:10				
Application Note	<p>FACS: Use 10 µl of the suggested working dilution to label 10⁶ cells in 100 µl.</p> <p>* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.</p>				

Properties

Form	Liquid
Purification	Purification with Protein G.
Buffer	PBS, 0.09% Sodium azide and 1% BSA.
Preservative	0.09% Sodium azide

Stabilizer	1% BSA
Concentration	0.1 mg/ml
Storage instruction	Aliquot and store in the dark at 2-8°C. Keep protected from prolonged exposure to light. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	HLA-DRA
Gene Full Name	major histocompatibility complex, class II, DR alpha
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). The alpha chain is approximately 33-35 kDa and its gene contains 5 exons. Exon 1 encodes the leader peptide, exons 2 and 3 encode the two extracellular domains, and exon 4 encodes the transmembrane domain and the cytoplasmic tail. DRA does not have polymorphisms in the peptide binding part and acts as the sole alpha chain for DRB1, DRB3, DRB4 and DRB5. [provided by RefSeq, Jul 2008]
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 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 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. [UniProt]
Calculated Mw	29 kDa
PTM	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.