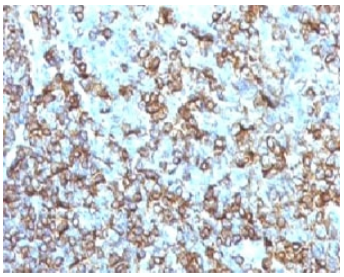
HLA-DRB1 Antibody Mouse Monoclonal MHDRb2 / HLA-DRB1 Mouse Monoclonal Antibody [clone MHDRb2] (V7112)

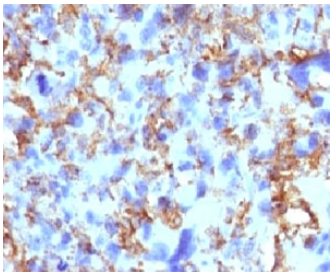
Catalog No.	Formulation	Size
V7112-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7112-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7112SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7112IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

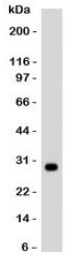
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	MHDRb2
Purity	Protein G affinity chromatography
UniProt	P01911
Localization	Cell surface
Applications	Flow Cytometry : 1-2ug/million cells in 0.1ml Immunofluorescence : 2-4ug/ml Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 0.5-1ug/ml for 30 min at RT Prediluted IHC Only Format : incubate for 30 min at RT (1)
Limitations	This HLA-DRB1 antibody is available for research use only.



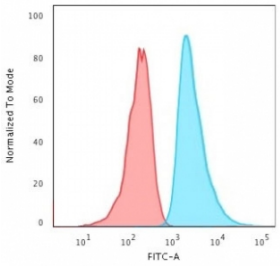
HLA-DRB1 Antibody Mouse Monoclonal MHDRb2 immunohistochemistry analysis of human tissue. IHC staining of formalin-fixed, paraffin-embedded human tonsil using HLA-DRB1 Antibody Mouse Monoclonal MHDRb2 demonstrates HRP-DAB brown membranous staining in numerous antigen-presenting immune cells within lymphoid tissue. The staining pattern highlights B lymphocytes and other immune cell populations consistent with expression of the HLA-DR beta chain / HLA-DRB1 in professional antigen-presenting cells. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 10-20 min followed by cooling at room temperature prior to antibody incubation.



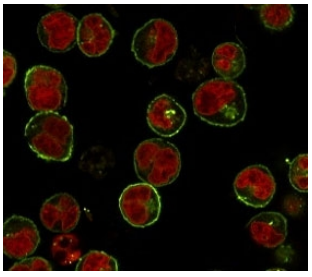
IHC testing of FFPE human histiocytoma and HLA-DRB1 antibody (clone MHDRb2). Staining of formalin-fixed tissues is enhanced by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.



Western blot testing of Ramos lysate and mouse monoclonal HLA-DRB1 antibody. Predicted molecular weight ~30 kDa.



FACS staining of Raji cells with HLA-DRB1 antibody MHDRb2; Red=isotype control, Blue= HLA-DRB1 antibody.



Immunofluorescent staining of Raji cells with HLA-DRB1 antibody (green, clone MHDRb2) and Reddot nuclear stain (red).

Description

Major histocompatibility complex class II DR beta 1 (HLA-DRB1) is a transmembrane glycoprotein encoded by the HLA-DRB1 gene that forms the beta chain of the HLA-DR antigen receptor responsible for presenting processed peptide antigens to CD4-positive helper T lymphocytes. HLA-DRB1 Antibody Mouse Monoclonal MHDRb2 recognizes the HLA-DR beta chain and enables investigation of antigen-presenting immune cells that express this major histocompatibility complex class II molecule. The HLA-DR receptor is a heterodimeric complex composed of an alpha chain encoded by HLA-DRA paired with a polymorphic beta chain encoded by HLA-DRB genes, most prominently HLA-DRB1. Together these chains assemble into a peptide-binding receptor that displays processed extracellular antigens on the cell surface

for recognition by CD4-positive T lymphocytes, initiating adaptive immune responses and coordinating immune activation.

Expression of HLA-DR molecules is characteristic of professional antigen-presenting cells including B lymphocytes, macrophages, dendritic cells, and activated monocytes. These immune cell populations use MHC class II receptors to present peptide antigens to helper T cells, allowing communication between innate and adaptive immune systems. Because of this biological role, antibodies targeting HLA-DRB1 are widely used in immunology research to identify antigen-presenting cell populations and to examine immune activation and antigen presentation pathways.

The HLA-DRB1 gene is highly polymorphic and displays extensive allelic diversity across human populations. This genetic variation influences peptide binding specificity and contributes to differences in immune recognition between individuals. Numerous HLA-DRB1 alleles have been associated with susceptibility to autoimmune diseases and immune-mediated disorders including rheumatoid arthritis, multiple sclerosis, and type 1 diabetes. Consequently, antibodies recognizing HLA-DRB1 are valuable tools for investigating antigen presentation, immune regulation, and immune cell biology in both normal physiology and disease contexts.

Mouse monoclonal antibodies such as clone MHDRb2 provide specific recognition of the HLA-DR beta chain and support research examining MHC class II expression and immune cell phenotypes. Detection of HLA-DRB1 expression helps characterize antigen-presenting cell populations and contributes to studies of immune activation, inflammation, and immune-mediated disease mechanisms.

Application Notes

Optimal dilution of the HLA-DRB1 Antibody Mouse Monoclonal MHDRb2 should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Activated human peripheral blood mononuclear cells were used as the immunogen for the HLA-DRB1 antibody.

Storage

Store the HLA-DRB1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

HLA-DR beta antibody, HLA-DRB1 antibody, MHC class II DR beta antibody, HLA class II histocompatibility antigen DR beta antibody