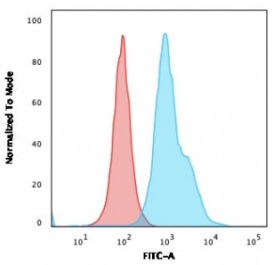
HLA-DRB1 Antibody for FACS SPM423 / HLA-DRB1 Flow Cytometry Antibody [clone SPM423] (V2589)

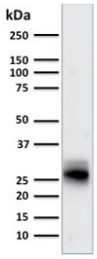
Catalog No.	Formulation	Size
V2589-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2589-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2589SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2589IHC-7ML	Prediluted 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

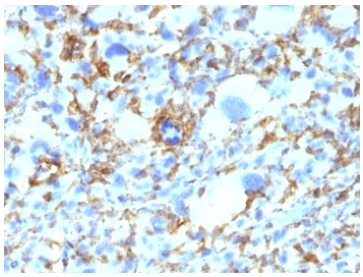
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	SPM423
Purity	Protein G affinity chromatography
UniProt	P01911
Localization	Cell surface
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-2ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 0.25-0.5ug/ml for 30 min at RT
Limitations	This HLA-DRB1 antibody is available for research use only.



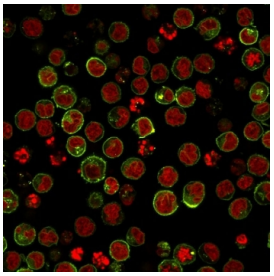
HLA-DRB1 Antibody for FACS SPM423 flow cytometry analysis of human cells. Flow cytometric analysis of human Raji cells using HLA-DRB1 Antibody for FACS clone SPM423 demonstrates strong surface staining consistent with expression of the HLA-DR beta chain / HLA-DRB1 on antigen-presenting B lymphocytes. Cells were stained with the mouse monoclonal antibody followed by fluorescent detection and analyzed by flow cytometry. The blue histogram represents cells labeled with the HLA-DRB1 antibody, showing a clear rightward fluorescence shift relative to the red isotype control, confirming specific detection of HLA-DRB1 surface expression on Raji cells.



Western blot testing of human spleen lysate with HLA-DRB1 antibody (clone SPM423). Predicted molecular weight ~30 kDa.



Formalin-fixed, paraffin-embedded human Histiocytoma stained with HLA-DRB1 antibody (clone SPM423).



Immunofluorescent staining of human Raji cells with anti-HLA-DRB1 antibody (clone SPM423, green) 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-presenting receptor complex. HLA-DRB1 Antibody for FACS enables flow cytometry detection of HLA-DR beta chain expression on the surface of immune cells, supporting identification and characterization of antigen-presenting cell populations in suspension-based assays. HLA-DR molecules belong to the MHC class II family and function as heterodimeric receptors composed of an alpha chain encoded by HLA-DRA and a beta chain encoded by HLA-DRB genes. These receptors bind peptides derived from extracellular proteins that have been processed within endosomal compartments and present them to CD4-positive helper T lymphocytes. Through this mechanism, HLA-DR plays a central role in adaptive immune activation and coordination of immune responses. Expression of HLA-DR is therefore characteristic of professional antigen-presenting cells including B lymphocytes, dendritic cells, macrophages, and activated monocytes. Flow cytometry analysis is widely used to quantify and phenotype immune cell populations based on surface antigen expression. Antibodies recognizing HLA-DRB1 allow researchers to identify antigen-presenting cells within heterogeneous cell suspensions and to monitor immune activation states. Because HLA-DR expression increases during immune activation and inflammatory responses, measurement of HLA-DR levels by flow cytometry provides important insight into immune regulation, antigen presentation capacity, and immune cell differentiation. In flow cytometry experiments, antibodies such as mouse monoclonal clone SPM423 bind HLA-DR beta chain molecules expressed on the plasma membrane of immune cells. Fluorescent secondary antibodies or

directly conjugated detection reagents enable quantification of HLA-DR-positive cell populations and analysis of expression levels across different immune subsets. This approach supports multiparameter flow cytometry studies examining immune cell phenotyping, antigen presentation dynamics, and immune activation pathways in human cell samples.

For additional information on HLA-DRB1 biology and complementary antibody validation, visit our HLA-DRB1 Antibody HLA-DRB/1067 / HLA-DR Beta Chain Antibody page.

Application Notes

Optimal dilution of the HLA-DRB1 Antibody for FACS SPM423 should be determined by the researcher.

1. 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
2. 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 anti-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

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