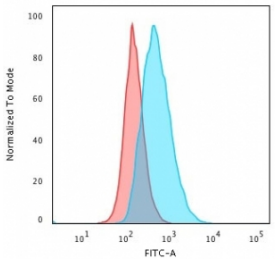
HLA-DQ Antibody (MHC II) [clone SPV-L3] (V2581)

Catalog No.	Formulation	Size
V2581-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2581-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2581SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

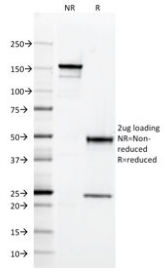
Citations (10)

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	SPV-L3
Purity	Protein G affinity chromatography
UniProt	P01908, P01909, P01920
Localization	Cell surface
Applications	Flow Cytometry : 1-2ug/million cells Immunofluorescence : 1-2ug/ml
Limitations	This HLA-DQ antibody is available for research use only.



Flow cytometry testing of human Raji cells with HLA-DQ antibody (clone SPV-L3); Red=isotype control, Blue= HLA-DQ antibody.



SDS-PAGE analysis of purified, BSA-free HLA-DQ antibody (clone SPV-L3) as confirmation of integrity and purity.

Description

HLA-DQ antibody (clone SPV-L3) detects HLA-DQ, a member of the class II major histocompatibility complex (MHC) family expressed primarily on antigen-presenting cells, including B lymphocytes, dendritic cells, and macrophages. The UniProt recommended name is HLA class II histocompatibility antigen, DQ alpha/beta chain. HLA-DQ functions as a heterodimeric glycoprotein composed of an alpha chain and a beta chain, both anchored in the plasma membrane. Together, they form the peptide-binding groove responsible for presenting processed antigens to CD4+ T cells, a central mechanism in adaptive immune activation and tolerance.

The HLA-DQ molecules are encoded by highly polymorphic genes located within the MHC class II region on chromosome 6p21.3. Each heterodimer is formed by a combination of alpha (DQA1) and beta (DQB1) chains, resulting in extensive allelic diversity that influences peptide binding specificity and immune recognition. The expression of HLA-DQ is tightly regulated and induced by interferon-gamma (IFN-ÃŽÂ³) during immune activation. Within the endosomal pathway, HLA-DQ molecules associate with invariant chain (Ii) during biosynthesis, which guides proper folding and trafficking. After peptide loading mediated by HLA-DM, the mature complex is transported to the cell surface to present antigenic peptides to helper T cells.

Physiologically, HLA-DQ plays a key role in immune surveillance, self-tolerance, and response to pathogens. Its polymorphic nature contributes to both protective and pathogenic immune responses. Certain HLA-DQ alleles are strongly associated with autoimmune conditions such as celiac disease (HLA-DQ2 and HLA-DQ8), type 1 diabetes, and autoimmune thyroid disorders. These associations arise from allele-specific peptide presentation that activates autoreactive T cells. Conversely, appropriate HLA-DQ-mediated antigen presentation is essential for generating protective immunity against infectious agents and for initiating vaccine responses.

At the cellular level, HLA-DQ localizes to the plasma membrane and intracellular vesicles of antigen-presenting cells. It is particularly abundant in germinal center B cells and professional antigen-presenting cells within lymphoid organs. Its expression pattern can be modulated during inflammation, infection, or cell differentiation. HLA-DQ is also detected on certain epithelial and endothelial cells under cytokine stimulation, reflecting its broad regulatory role in immune communication.

Clone SPV-L3 is a monoclonal antibody designed for detection of HLA-DQ molecules in human cells and tissues. It recognizes conformationally expressed HLA-DQ heterodimers and is useful for identifying antigen-presenting cell populations in immunological studies. This clone enables detection of surface and total HLA-DQ expression under basal and stimulated conditions, supporting research on antigen presentation, immune regulation, and disease association. The antibody can be applied in studies examining immune cell activation, tissue expression profiling, or transplantation-related MHC characterization.

HLA-DQ antibody (clone SPV-L3) is suitable for detecting HLA-DQ expression in lymphoid tissue, peripheral blood mononuclear cells, and cell-based immune assays. NSJ Bioreagents provides HLA-DQ antibody (clone SPV-L3) validated for use in relevant research applications supporting studies in immunology, antigen processing, and autoimmune disease research.

Application Notes

Optimal dilution of the HLA-DQ antibody should be determined by the researcher.

Immunogen

The T4-positive CTL clone HG-38 was used as the immunogen for the HLA-DQ antibody.

Storage

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