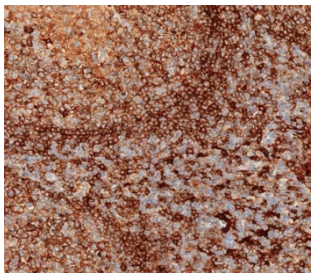
HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody (F54283)

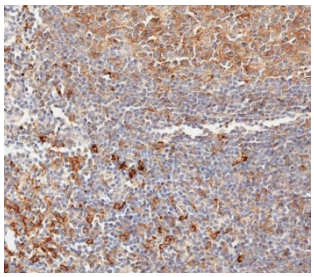
Catalog No.	Formulation	Size
F54283-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F54283-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

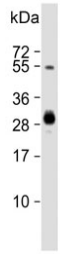
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity purified
UniProt	P04440
Localization	Cell surface
Applications	Western blot: 1:500-1:2000 Immunohistochemistry (FFPE): 1:25 Flow cytometry: 1:25 (1x10e6 cells)
Limitations	This HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody is available for research use only.



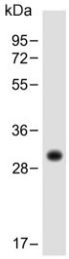
HLA-DPB1 Antibody in Human Tonsil IHC. Immunohistochemistry testing of HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody in FFPE human tonsil tissue. Strong HLA-DPB1 immunoreactivity is observed throughout much of the lymphoid tissue, with prominent membrane-associated staining outlining numerous cells.



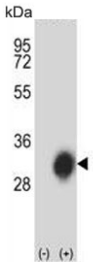
HLA-DPB1 Antibody in Human Lymph Node IHC. Immunohistochemistry testing of HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody in FFPE human lymph node tissue. HLA-DPB1 immunoreactivity is observed in distinct regions and populations of cells within the lymphoid tissue, with comparatively lower staining in adjacent areas.



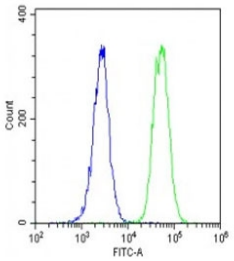
HLA-DPB1 Antibody in Human Raji B Lymphoma Cells WB. Western blot testing of HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody with human Raji B lymphoma cell lysate. A prominent HLA-DPB1 band is observed at approximately 29 kDa, consistent with the predicted molecular weight of the HLA-DP beta chain.



HLA-DPB1 Antibody in Human Lung WB. Western blot testing of HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody with human lung tissue lysate. A prominent HLA-DPB1 band is observed at approximately 29 kDa, consistent with the predicted molecular weight of the HLA-DP beta chain.



HLA-DPB1 Antibody in HLA-DPB1-Transfected Human 293 Cells WB. Western blot testing of HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody with 1) non-transfected and 2) HLA-DPB1-transfected human 293 cell lysates. A strong band at approximately 29 kDa is detected in the HLA-DPB1-transfected sample and is absent from the non-transfected control, supporting specific detection of HLA-DPB1.



HLA-DPB1 Antibody in Human U-2 OS Osteosarcoma Cells FACS. Flow cytometry testing of fixed and permeabilized human U-2 OS osteosarcoma cells with HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody. The antibody-stained population (green) shows a strong fluorescence shift relative to the isotype control (blue), demonstrating detection of HLA-DPB1.

Description

HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody recognizes HLA-DPB1, the beta 1 chain of the human HLA-DP major histocompatibility complex class II molecule. HLA-DP participates in adaptive immunity by presenting peptides derived primarily from extracellular proteins to CD4-positive T lymphocytes. Together with HLA-DPA1, HLA-DPB1 forms a heterodimeric cell-surface complex that contributes to antigen recognition and the activation and regulation of antigen-specific immune responses.

HLA-DPB1 encodes a type I transmembrane glycoprotein of approximately 26-28 kDa. The mature protein contains extracellular beta-1 and beta-2 domains followed by a transmembrane region and cytoplasmic tail. The DP beta chain

associates non-covalently with the HLA-DPA alpha chain, and portions of both subunits contribute to formation of the peptide-binding groove. This heterodimeric structure allows HLA-DP molecules to bind processed peptides and display them at the cell surface for recognition by CD4-positive T cells.

HLA-DPB1 is highly polymorphic, with sequence variation influencing the peptide-binding properties of individual HLA-DP molecules. These differences can affect antigen presentation and T cell recognition and are important in the immunological distinction between individuals. HLA-DPB1 variation has been studied extensively in hematopoietic stem cell transplantation, infectious disease, autoimmunity and cancer immunology. Compatibility and immunogenic differences involving HLA-DPB1 are particularly relevant to studies of allogeneic immune responses and transplantation biology.

As a classical MHC class II component, HLA-DPB1 contributes to antigen presentation by cells including B lymphocytes, dendritic cells and macrophages. Regulation of class II expression and peptide loading helps determine which antigens are displayed to helper T cells, thereby influencing downstream cellular and humoral immune responses. Studying the HLA-DP beta chain can therefore provide insight into antigen-presenting cell biology, immune recognition and mechanisms controlling CD4 T cell responses.

This rabbit polyclonal antibody was generated against a peptide derived from a portion of amino acids 77-105 of human HLA-DPB1 and is antigen affinity purified. NSJ Bioreagents provides this HLA-DPB1 Antibody for research into HLA-DP biology, MHC class II antigen presentation and immune regulation. An MHC Class II DP Beta Chain Antibody can support investigation of the HLA-DPB1 component of HLA-DP complexes and its role in adaptive immune recognition.

Explore our Immunology Antibodies page for additional reagents targeting MHC molecules, antigen presentation and adaptive immune responses.

Application Notes

The stated application concentrations are suggested starting points. Titration of the HLA-DPB1 Antibody / MHC Class II DP Beta Chain Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 77-105 from the human protein were used as the immunogen for the HLA-DPB1 antibody.

Storage

Aliquot the HLA-DPB1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

HLA-DPB1 antibody, DPB1 antibody, HLA-DPB antibody, HLA-DP Beta Chain antibody, MHC Class II DP Beta 1 antibody

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