HLA-DRB1 Rabbit Polyclonal Antibody (RQ4649)

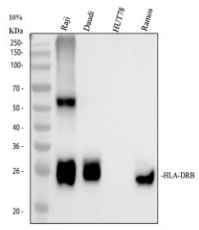
Catalog No.	Formulation	Size
RQ4649	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

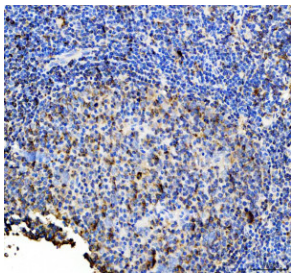
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P13761
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This HLA-DRB1 antibody is available for research use only.



HLA-DRB1 Rabbit Polyclonal Antibody by WB in Raji, Daudi, Jurkat and K562 Cells. Western blot testing of Raji (lane 1), Daudi (lane 2), Jurkat (lane 3) and K562 (lane 4) cell lysates with HLA-DRB1 Rabbit Polyclonal Antibody. A prominent band is detected at approximately 30 kDa, consistent with the expected molecular weight of the HLA-DR beta chain. Signal intensity varies among the tested cell lines, with strong target-sized reactivity and limited additional banding. The results support detection of HLA-DRB1 and MHC class II DR beta protein by western blot.



HLA-DRB1 Rabbit Polyclonal Antibody by WB in Human Cancer Cell Lines. Western blot testing of HeLa (lane 1), K562 (lane 2), Raji (lane 3) and Daudi (lane 4) cell lysates with HLA-DRB1 Rabbit Polyclonal Antibody. A prominent band is detected at approximately 30 kDa, consistent with the expected molecular weight of the HLA-DR beta chain. Signal is substantially stronger in Raji and Daudi cells than in HeLa and K562 cells, demonstrating differences in HLA-DRB1 abundance among the tested cell types. The dominant target-sized signal supports detection of MHC class II DR beta protein.



HLA-DRB1 Rabbit Polyclonal Antibody by IHC in Human Tonsil. Immunohistochemistry of FFPE human tonsil sections using HLA-DRB1 Rabbit Polyclonal Antibody. Strong membranous and cytoplasmic staining is observed in populations of lymphoid and antigen-presenting cells, with substantially lower staining in surrounding areas. The distribution is consistent with HLA-DR expression in immune-cell-rich tonsillar tissue and supports detection of the MHC class II DR beta chain by immunohistochemistry.

Description

HLA-DRB1 Rabbit Polyclonal Antibody recognizes major histocompatibility complex class II DR beta 1 (HLA-DRB1), a transmembrane glycoprotein that forms the beta chain of the HLA-DR antigen-presenting complex. HLA-DR is a member of the major histocompatibility complex class II family and plays a central role in adaptive immunity by presenting peptide antigens to CD4-positive T lymphocytes. The functional HLA-DR receptor is a heterodimer composed of an alpha chain encoded by HLA-DRA and a beta chain encoded primarily by HLA-DRB1.

HLA-DR molecules bind peptides generated from extracellular proteins following uptake and processing within endosomal and lysosomal compartments. Peptide-loaded HLA-DR complexes are transported to the plasma membrane, where the bound antigen can be recognized by T-cell receptors on CD4-positive helper T cells. This interaction contributes to T-cell activation and coordinates downstream cellular and humoral immune responses. HLA-DR expression is particularly associated with professional antigen-presenting cells, including B lymphocytes, dendritic cells, macrophages and other activated immune cell populations.

HLA-DRB1 is among the most polymorphic genes in the human genome. Extensive allelic variation within HLA-DRB1 influences the peptide-binding properties of the HLA-DR complex and contributes to differences in antigen recognition between individuals. Particular HLA-DRB1 alleles have been associated with susceptibility or resistance to numerous autoimmune and immune-mediated disorders, making HLA-DRB1 an important subject in immunogenetics, transplantation biology and autoimmune disease research.

Altered HLA-DR expression is also investigated in inflammation, infection and cancer, where changes in MHC class II antigen presentation can influence immune recognition and the composition of local immune responses. HLA-DR is frequently studied as a marker of antigen-presenting cells and immune activation, while HLA-DRB1 provides a specific molecular target for examining the beta-chain component of this pathway. NSJ Bioreagents provides this HLA-DRB1 Rabbit Polyclonal Antibody for research into HLA-DRB1 expression and MHC class II biology.

An HLA-DRB1 Rabbit Polyclonal Antibody can be used to investigate antigen presentation, adaptive immune responses, immune cell activation and HLA-DR-associated disease mechanisms.

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 Rabbit Polyclonal should be determined by the researcher.

Immunogen

Amino acids TERVQFLERLFYNQEEFVRFDSDVGEYRAVTELGR were used as the immunogen for the HLA-DRB1 antibody.

Storage

After reconstitution, the HLA-DRB1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at

-20oC. Avoid repeated freezing and thawing.

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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