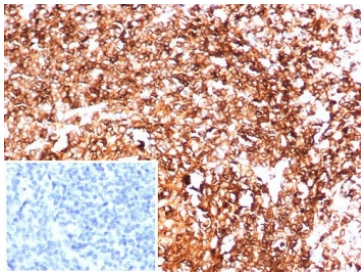
HLA-DR Antibody Rabbit Monoclonal for IHC HLA-DRA/6844R [clone HLA-DRA/6844R] (V5131)

Catalog No.	Formulation	Size
V5131-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5131-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5131SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	HLA-DRA/6844R
Purity	Protein A/G affinity
UniProt	P01903
Localization	Cell surface
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This HLA-DR antibody is available for research use only.



HLA-DR Antibody Rabbit Monoclonal for IHC HLA-DRA/6844R immunohistochemistry staining of human tonsil tissue. IHC analysis of FFPE human tonsil demonstrates widespread HRP-DAB brown staining of lymphoid cells using rabbit monoclonal HLA-DR antibody clone HLA-DRA/6844R. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min followed by cooling before staining. The staining pattern highlights membranous and cytoplasmic signal in antigen-presenting immune cells within tonsillar lymphoid tissue, consistent with expression of Human leukocyte antigen DR alpha / HLA-DRA. Inset shows PBS used in place of primary antibody as a secondary antibody negative control.

Description

Human leukocyte antigen DR alpha (HLA-DRA) is a major histocompatibility complex class II protein encoded by the HLA-DRA gene and forms the alpha chain of the HLA-DR antigen receptor responsible for presenting peptide antigens to CD4-positive T lymphocytes. HLA-DR Antibody Rabbit Monoclonal for IHC recognizes the HLA-DR antigen complex and supports immunohistochemistry analysis of MHC class II expression within tissue sections containing antigen-presenting immune cells.

HLA-DR is a heterodimeric receptor composed of the HLA-DRA alpha chain paired with a beta chain encoded by HLA-DRB genes. These two chains associate to form the HLA-DR antigen complex that binds peptides derived from extracellular proteins processed within endosomal compartments. The peptide-loaded HLA-DR receptor is then transported to the cell surface where it presents antigenic peptides to CD4-positive helper T lymphocytes. Through this antigen presentation pathway, the HLA-DR complex plays a central role in adaptive immune activation and immune surveillance.

In immunology literature the HLA-DR receptor complex is commonly referred to simply as HLA-DR, and antibodies targeting this molecule are frequently described as HLA-DR antibodies, HLA-DR alpha antibodies, or MHC class II DR antibodies. HLA-DR antibody reagents therefore detect the HLA-DR antigen complex expressed on professional antigen-presenting cells including B lymphocytes, macrophages, and dendritic cells. Expression of HLA-DR alpha can also be induced by inflammatory cytokines such as interferon-gamma, leading to increased MHC class II expression during infection, autoimmune disease, inflammatory responses, and within tumor microenvironments where immune cells infiltrate tissues.

Immunohistochemistry detection of HLA-DR expression provides a useful approach for visualizing antigen-presenting immune cells within tissue architecture. Analysis of HLA-DR positive cells in tissue sections helps characterize immune infiltration, lymphoid structures, and antigen presentation activity in both normal and pathological tissues. Rabbit monoclonal clone HLA-DRA/6844R recognizes the HLA-DR antigen complex and supports detection of HLA-DR expressing immune cells in immunohistochemistry studies.

Application Notes

Optimal dilution of the rabbit monoclonal HLA-DR antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 1-200) from the human protein was used as the immunogen for the HLA-DR antibody.

Storage

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

Alternate Names

HLA-DR alpha antibody, HLA-DRA antibody, MHC class II DR antibody, HLA-DR antigen antibody