

HLA-DR Antibody Clone LN3 / Mouse Monoclonal [clone LN3] (V2586)

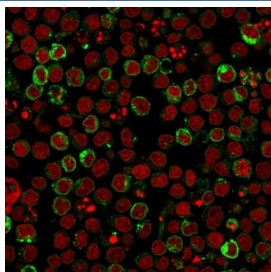
Catalog No.	Formulation	Size
V2586-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2586-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2586SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2586IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml



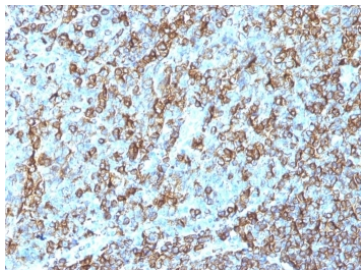
Citations (10)

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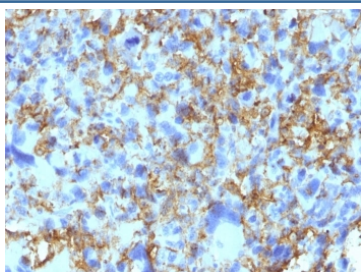
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	LN3
Purity	Protein G affinity chromatography
UniProt	P01911
Localization	Cytoplasmic, membranous
Applications	Flow Cytometry : 1-2ug/million cells Immunofluorescence : 1-3ug/ml Western Blot : 2-4ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This HLA-DR antibody is available for research use only.



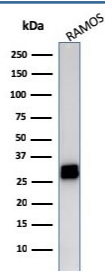
HLA-DR Antibody Clone LN3 immunofluorescence staining of human Ramos cells. Immunofluorescence analysis was performed using HLA-DR Antibody Clone LN3 to detect Human leukocyte antigen DR alpha / HLA-DRA (green), a major histocompatibility complex class II antigen expressed on B lymphocytes. Nuclei were counterstained with Reddot nuclear stain (red). The staining pattern shows strong membrane-associated signal consistent with HLA-DR expression on Ramos B lymphoma cells, a model cell line commonly used to study antigen-presenting immune cells.



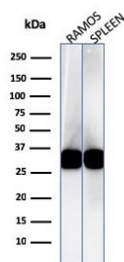
HLA-DR Antibody Clone LN3 immunohistochemistry staining of human tonsil tissue. IHC analysis of FFPE human tonsil was performed using HLA-DR Antibody Clone LN3 following heat induced epitope retrieval by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allowing sections to cool before testing. HRP-DAB brown staining highlights HLA-DR positive immune cells within the tonsillar lymphoid tissue, consistent with expression of Human leukocyte antigen DR alpha / HLA-DRA on antigen-presenting cells including B lymphocytes and other immune cells within germinal center regions.



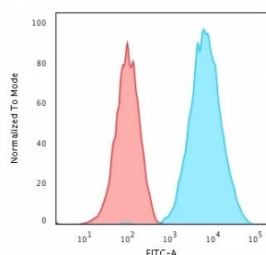
IHC staining of FFPE human histiocytoma tissue with HLA-DR antibody (clone LN3). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Western blot testing of human Ramos cell lysate with HLA-DR antibody (clone LN3). Expected molecular weight ~30 kDa.



Western blot testing of human Ramos and spleen cell lysate with HLA-DR antibody (clone LN3). Expected molecular weight ~30 kDa.



HLA-DR Antibody Clone LN3 flow cytometry staining of human Raji cells. Flow cytometry analysis was performed using HLA-DR Antibody Clone LN3 to detect Human leukocyte antigen DR alpha / HLA-DRA expression on human Raji B lymphoma cells. Red histogram represents isotype control staining, while blue indicates HLA-DR antibody staining. A clear rightward fluorescence shift of the antibody-stained population demonstrates strong HLA-DR expression, consistent with the known MHC class II antigen presentation phenotype of Raji B lymphoblastoid cells.

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 presentation receptor expressed on antigen-presenting immune cells. HLA-DR Antibody Clone LN3 recognizes the HLA-DR antigen complex, a widely used immunologic marker of major histocompatibility complex class II expression on B lymphocytes, dendritic cells, macrophages, and activated lymphocytes.

HLA-DR is a heterodimeric receptor composed of an alpha chain encoded by HLA-DRA and a beta chain encoded by HLA-DRB genes. This receptor binds peptides derived from extracellular proteins that have been processed within endosomal compartments and presents them at the cell surface to CD4-positive T lymphocytes. Through this antigen presentation pathway, the HLA-DR complex plays a central role in adaptive immune activation and immune surveillance. Because of its critical function in immune recognition, HLA-DR expression is commonly used as a marker of professional antigen-presenting cells and activated immune populations.

In immunology literature the HLA-DR receptor complex is often 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 present on antigen-presenting cells and immune infiltrates within tissues. Expression of HLA-DR alpha can be strongly induced by inflammatory cytokines such as interferon-gamma, resulting in increased MHC class II expression during infection, autoimmune disease, inflammatory responses, and within tumor microenvironments characterized by immune activation.

The LN3 antibody clone has become one of the most widely used reagents for detection of the HLA-DR antigen in immunology and pathology research. HLA-DR antibody LN3 recognizes the HLA-DR antigen complex associated with antigen-presenting immune cells and is commonly used to identify B lymphocytes, macrophages, dendritic cells, and other cells expressing MHC class II molecules in research applications. Detection of HLA-DR expression using antibodies such as clone LN3 supports studies of immune activation, antigen presentation pathways, and immune cell infiltration in both normal tissues and disease models.

Application Notes

Optimal dilution of the HLA-DR antibody clone LN3 should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate buffer, pH 6.0, 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 HLA-DR antibody.

Storage

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

Alternate Names

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

