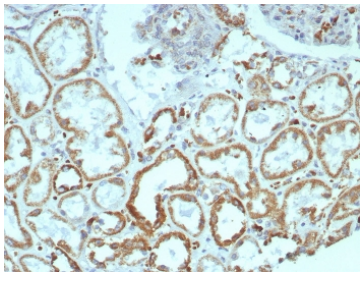
MHC Class I-Related Protein 1 Antibody MR1/7577 / HLALS Antibody [clone MR1/7577] (V4756)

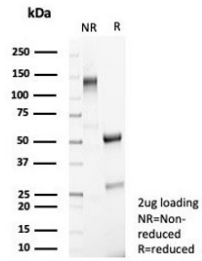
Catalog No.	Formulation	Size
V4756-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4756-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4756SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	MR1/7577
Purity	Protein A/G affinity
UniProt	Q95460
Localization	Secreted, Cell membrane, Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This MHC Class I-Related Protein 1 Antibody MR1/7577 / HLALS Antibody is available for research use only.



MHC Class I-Related Protein 1 Antibody MR1/7577 Staining of Human Kidney IHC. Immunohistochemistry staining of FFPE human kidney tissue using MHC Class I-Related Protein 1 Antibody clone MR1/7577. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling. Strong brown immunoreactivity is evident in renal tubular epithelial cells, while glomeruli show comparatively limited staining.



Purified MHC Class I-Related Protein 1 Antibody MR1/7577 SDS-PAGE. SDS-PAGE analysis of purified, BSA-free MHC Class I-Related Protein 1 Antibody clone MR1/7577 under non-reduced (NR) and reduced (R) conditions with 2 ug loaded per lane. The non-reduced antibody migrates predominantly near 150 kDa, while reduction produces prominent immunoglobulin heavy and light chain bands at approximately 50 and 25 kDa, consistent with intact IgG and supporting antibody integrity and purity.

Description

MHC Class I-Related Protein 1 Antibody MR1/7577 / HLALS Antibody recognizes MR1, a non-classical major histocompatibility complex-related protein with a specialized function in small-molecule antigen presentation. MR1 associates with beta-2-microglobulin and presents metabolite-derived antigens to MR1-restricted T cells, particularly mucosal-associated invariant T (MAIT) cells. This mechanism differs from classical MHC class I antigen presentation, which primarily involves peptide antigens.

MR1 plays an important role in immune recognition of microbial metabolism. Well-characterized MR1 antigens include intermediates generated through microbial riboflavin biosynthesis. Presentation of these metabolites allows MAIT cells to recognize metabolic signatures associated with microorganisms and rapidly initiate immune responses. This MR1-dependent pathway contributes to immune surveillance and provides a molecular connection between microbial metabolism and cellular immunity.

MR1 expression and intracellular trafficking are closely associated with antigen availability. In the absence of suitable ligands, much of the protein is retained intracellularly. Ligand binding stabilizes MR1 and facilitates movement of MR1-antigen complexes to the cell surface, where they can be recognized by MR1-restricted T-cell receptors. This regulated antigen-presentation mechanism has made MR1 and MAIT cells important subjects in studies of host defense, mucosal immunity and immune regulation.

MR1-dependent immune responses are also being investigated in inflammatory disease and cancer biology. The limited polymorphism of MR1 compared with classical MHC molecules further distinguishes this antigen-presentation system and has contributed to interest in MR1-restricted T-cell biology. An HLALS Antibody can support research into MR1 expression and the molecular mechanisms underlying this specialized branch of cellular immunity.

Clone MR1/7577 is a mouse monoclonal MHC Class I-Related Protein 1 Antibody generated against a recombinant region of human MR1. NSJ Bioreagents provides antibodies for research into antigen presentation and immune recognition. A MHC Class I-Related Protein 1 Antibody provides a research tool for investigating MR1 and its role in metabolite antigen presentation and MAIT cell immunity.

For an additional monoclonal reagent targeting MR1, see our MR1 Antibody MR1/7579 / MR1 Antigen Presentation Antibody page.

Application Notes

Optimal dilution of the MHC Class I-Related Protein 1 Antibody MR1/7577 / HLALS Antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 50-250) from the human protein was used as the immunogen for the MHC class I related protein 1 antibody.

Storage

Aliquot the MHC class I related protein 1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

MR1 antibody, Major histocompatibility complex class I-related protein 1 antibody, HLALS antibody, MR1 protein antibody

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