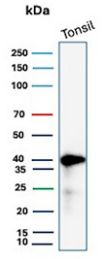
MHC-E Antibody / MHC class I antigen E [clone HLAE/13125] (V5910)

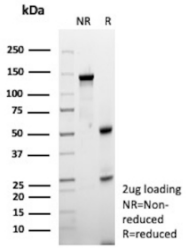
Catalog No.	Formulation	Size
V5910-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5910-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5910SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	HLAE/13125
UniProt	P13747
Localization	Secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This MHC-E/MHC class I antigen E antibody is available for research use only.



Western blot analysis of human tonsil tissue lysate probed with MHC-E/MHC class I antigen E antibody (clone HLAE/13125). A distinct band is detected near the predicted molecular weight of approximately 40-45 kDa, consistent with MHC class I antigen E heavy chain expression in lymphoid tissue. The observed band pattern supports specific detection of MHC-E in immune cell-enriched tissue lysates.



SDS-PAGE Analysis of purified MHC-E/MHC class I antigen E antibody (clone HLAE/13125). Confirmation of Purity and Integrity of Antibody.

Description

MHC-E antibody targets MHC class I antigen E, a non-classical major histocompatibility complex class I molecule encoded by the HLA-E gene. MHC-E is expressed at the cell surface in association with beta-2 microglobulin and a restricted set of peptides, most commonly derived from signal sequences of other HLA class I molecules. Unlike classical MHC class I proteins, MHC-E displays limited polymorphism and serves primarily immune regulatory functions rather than broad antigen presentation. An MHC-E antibody is therefore widely used to study immune modulation rather than peptide diversity.

MHC class I antigen E plays a central role in regulating natural killer (NK) cell activity through interaction with CD94/NKG2 receptor complexes. Engagement of inhibitory receptors such as CD94/NKG2A delivers tolerance signals that protect healthy cells from NK cell-mediated cytotoxicity. Because of this function, MHC-E is often described as a non-classical MHC class I molecule and a key immune checkpoint ligand in innate immunity. Use of an MHC-E antibody allows investigation of NK cell inhibition, immune surveillance, and self-recognition mechanisms.

Beyond NK cell regulation, MHC-E can also present select pathogen-derived peptides to subsets of CD8-positive T cells, linking innate and adaptive immune responses. Expression of MHC class I antigen E is dynamically regulated by inflammatory cytokines, cellular stress, and infection. Viral pathogens such as cytomegalovirus are known to exploit MHC-E expression to evade immune detection, further highlighting its importance in host-pathogen interactions. An MHC-E antibody is therefore a valuable tool in studies of infection biology and immune evasion strategies.

MHC-E expression has gained increasing attention in cancer immunology. Many tumors upregulate MHC class I antigen E to suppress NK cell activity and escape immune-mediated elimination. Elevated MHC-E expression has been reported in a variety of solid tumors and hematologic malignancies, where it may correlate with immune suppression within the tumor microenvironment. Use of an MHC-E antibody supports research into tumor immune escape, immune checkpoint pathways, and the development of novel immunotherapeutic strategies.

Structurally, MHC class I antigen E shares the conserved alpha chain architecture of MHC class I molecules but binds a highly restricted peptide repertoire. This specialization underlies its immune regulatory function and distinguishes it from classical HLA-A, HLA-B, and HLA-C molecules. Because MHC-E expression reflects immune status rather than antigen diversity, MHC-E antibody staining is commonly used to assess immune regulation in tissues rather than antigen presentation capacity.

Clone HLAE/13125 is designed to recognize MHC class I antigen E and supports detection of MHC-E expression in research applications. NSJ Bioreagents offers this MHC-E antibody to support studies of NK cell biology, immune tolerance, viral immune evasion, and tumor immunology.

For additional research on this non-classical MHC class I molecule, see our HLA-E Antibody / MHC Class I Antigen E page.

Application Notes

Optimal dilution of the MHC-E/MHC class I antigen E antibody should be determined by the researcher.

Immunogen

A recombinant fragment (around amino acids 1-150) of human HLAE protein (exact sequence is proprietary) was used as the immunogen for the MHC-E/MHC class I antigen E antibody.

Storage

MHC-E/MHC class I antigen E antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

HLAE antibody, HLA-E antibody, MHC class I antigen E antibody, HLA class I histocompatibility antigen alpha chain E antibody, HLA-6.2 antibody

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