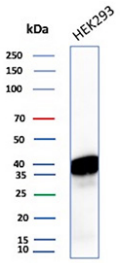
Non-classical MHC class I Antibody / Nonclassical MHC class I molecule HLA-E [clone HLAE/13126] (V5911)

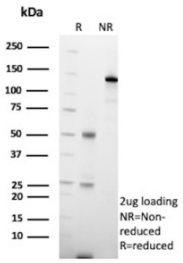
Catalog No.	Formulation	Size
V5911-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5911-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5911SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

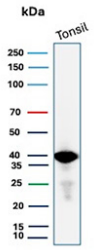
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	HLAE/13126
UniProt	P13747
Localization	Secreted
Applications	Western Blot: 2-4ug/ml
Limitations	This Non-classical MHC class I/Nonclassical MHC class I molecule HLA-E antibody is available for research use only.



Western blot analysis of human HEK293 cell lysate probed with Non-classical MHC class I antibody (clone HLAE/13126). A prominent band is detected near the predicted molecular weight of approximately 40-45 kDa, consistent with expression of the HLA class I histocompatibility antigen E heavy chain. The observed band pattern supports specific detection of non-classical MHC class I antigen E in HEK293 cells.



SDS-PAGE Analysis of purified Non-classical MHC class I antibody (clone HLAE/13126). Confirmation of Purity and Integrity of Antibody.



Western blot analysis of human tonsil lysate probed with Non-classical MHC class I antibody (clone HLAE/13126). A prominent band is detected near the predicted molecular weight of approximately 40-45 kDa, consistent with expression of the HLA class I histocompatibility antigen E heavy chain. The observed band pattern supports specific detection of non-classical MHC class I antigen E in tonsil cells.

Description

Non-classical MHC class I antibody targets HLA class I histocompatibility antigen E, a specialized major histocompatibility complex class I molecule encoded by the HLA-E gene. Unlike classical MHC class I proteins such as HLA-A, HLA-B, and HLA-C, HLA-E exhibits limited polymorphism and serves predominantly immune regulatory functions rather than broad peptide antigen presentation. Non-classical MHC class I molecules are characterized by restricted peptide repertoires and distinct roles in immune surveillance, making a non-classical MHC class I antibody an important tool for immunology research.

HLA class I histocompatibility antigen E is primarily expressed at the cell surface in association with beta-2 microglobulin and short peptides derived from the leader sequences of other HLA class I molecules. This peptide presentation enables HLA-E to interact with CD94 NKG2 receptor complexes on natural killer (NK) cells. Engagement of inhibitory receptors such as CD94 NKG2A transmits tolerance signals that prevent NK cell-mediated killing of healthy cells. Because of this mechanism, HLA-E is widely recognized as a key immune checkpoint molecule within the innate immune system. Use of a non-classical MHC class I antibody allows detailed study of NK cell inhibition and immune self-recognition pathways.

Beyond its role in NK cell regulation, HLA class I histocompatibility antigen E can present select pathogen-derived peptides to subsets of CD8-positive T cells, linking innate and adaptive immune responses. Expression of HLA-E is modulated by inflammatory cytokines, cellular stress, and infection, allowing dynamic adjustment of immune tolerance mechanisms. Viral pathogens, including cytomegalovirus, are known to exploit HLA-E upregulation as a strategy to evade immune clearance. A non-classical MHC class I antibody is therefore valuable for studies of host-pathogen interactions and immune evasion biology.

HLA-E expression has significant relevance in cancer immunology. Many tumors increase expression of non-classical MHC class I molecules, including HLA-E, to suppress NK cell activity and escape immune surveillance. Elevated HLA-E levels have been reported across a range of solid tumors and hematologic malignancies, where they may contribute to immune suppressive tumor microenvironments. Use of a non-classical MHC class I antibody supports research into tumor immune escape mechanisms and the development of novel immunotherapeutic strategies targeting NK cell checkpoints.

Structurally, HLA class I histocompatibility antigen E shares the conserved alpha chain architecture of MHC class I proteins but differs in its peptide-binding groove, which accommodates a limited and conserved peptide set. This structural specialization underlies its unique immune regulatory function. Because non-classical MHC class I expression reflects immune modulation rather than antigen diversity, antibody-based detection of HLA-E is frequently used to assess immune regulatory status in tissues rather than classical antigen presentation capacity.

Clone HLAE/13126 is designed to recognize HLA class I histocompatibility antigen E and supports detection of non-classical MHC class I expression in research applications. NSJ Bioreagents offers this non-classical MHC class I antibody to support studies of NK cell biology, immune tolerance, tumor immunology, and non-classical HLA function.

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 Non-classical MHC class I/Nonclassical MHC class I molecule HLA-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 Non-classical MHC class I/Nonclassical MHC class I molecule HLA-E antibody.

Storage

Non-classical MHC class I/Nonclassical MHC class I molecule HLA-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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