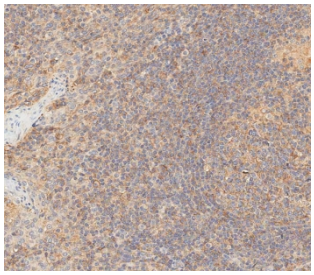
HLA-B Heavy Chain Antibody / HLA-B Alpha Chain Antibody (F55089)

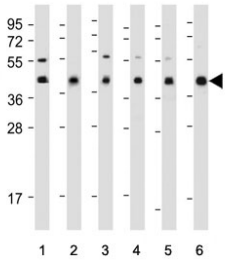
Catalog No.	Formulation	Size
F55089-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F55089-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

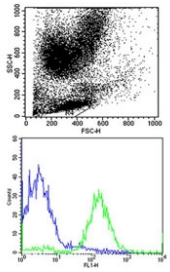
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity purified
UniProt	P01889
Applications	Western Blot : 1:1000-1:2000 Immunohistochemistry (FFPE) : 1:50-1:100 Flow Cytometry : 1:25 per million cells in 0.1ML
Limitations	This HLA-B Heavy Chain Antibody / HLA-B Alpha Chain Antibody is available for research use only.



HLA-B Heavy Chain Antibody in Human Tonsil IHC. Immunohistochemistry testing of HLA-B Heavy Chain Antibody / HLA-B Alpha Chain Antibody in FFPE human tonsil tissue. HIER was performed by steaming tissue sections in pH 6 citrate buffer for 20 min followed by cooling prior to staining. HLA-B immunoreactivity is broadly distributed throughout the lymphoid tissue, with prominent membrane-associated staining outlining numerous cells.



HLA-B Heavy Chain Antibody in Human Leukemia, Lymphoma and Melanoma Cell Lysates WB. Western blot testing of HLA-B Heavy Chain Antibody / HLA-B Alpha Chain Antibody with human 1) HL60 acute myeloid leukemia, 2) CCRF-CEM T-cell leukemia, 3) Jurkat T-cell leukemia, 4) Ramos B-cell lymphoma, 5) A375 melanoma and 6) A2058 melanoma cell lysates. A prominent HLA-B heavy chain band is observed at approximately 40-45 kDa across the tested samples, consistent with the expected migration range of the glycosylated protein.



HLA-B Heavy Chain Antibody in Human Peripheral Blood Mononuclear Cells FACS. Flow cytometry testing of HLA-B Heavy Chain Antibody / HLA-B Alpha Chain Antibody with human peripheral blood mononuclear (PBM) cells. The HLA-B antibody-stained population (green) shows a clear fluorescence shift relative to the isotype control (blue), demonstrating detection of cell-surface HLA-B.

Description

HLA-B Heavy Chain Antibody / HLA-B Alpha Chain Antibody recognizes the heavy chain of human leukocyte antigen B, a classical major histocompatibility complex class I protein encoded by the HLA-B gene. HLA-B molecules participate in immune surveillance by presenting peptides derived primarily from intracellular proteins to CD8-positive T lymphocytes. Recognition of peptide-HLA-B complexes enables cytotoxic T cells to identify infected or transformed cells and initiate antigen-specific immune responses.

The HLA-B heavy chain, officially named HLA class I histocompatibility antigen, B alpha chain, is an approximately 40 kDa transmembrane glycoprotein. It associates non-covalently with beta-2 microglobulin and a bound peptide to form the functional MHC class I complex. The extracellular portion of the alpha chain contains alpha-1, alpha-2 and alpha-3 domains. The alpha-1 and alpha-2 domains form the peptide-binding groove, while the alpha-3 domain contributes to interactions involved in immune recognition.

HLA-B is among the most polymorphic genes in the human genome. Sequence variation within the peptide-binding region influences which peptides individual HLA-B molecules can accommodate and present. Intracellular peptides are transported into the endoplasmic reticulum, where HLA-B associates with beta-2 microglobulin and components of the peptide-loading machinery. Stable peptide-HLA-B complexes are subsequently transported to the cell surface for surveillance by HLA-B-restricted CD8-positive T cells.

Beyond antigen presentation to T cells, HLA-B molecules participate in regulation of innate immunity through interactions with receptors expressed by natural killer cells. HLA-B polymorphism can therefore influence both adaptive and innate immune responses. Particular HLA-B alleles and sequence motifs have been extensively investigated in transplantation, infectious disease, autoimmunity, inflammatory disorders, cancer immunology and pharmacogenetics, making the HLA-B alpha chain an important target for studies of human immune recognition.

This rabbit polyclonal antibody was generated against a portion of amino acids 62-90 of human HLA-B and is antigen affinity purified. NSJ Bioreagents provides this HLA-B Heavy Chain Antibody for research into MHC class I biology, antigen presentation and immune regulation. An HLA-B Alpha Chain Antibody can support investigation of the HLA-B component of class I complexes and its role in T cell and natural killer cell-mediated immune recognition.

For additional information on HLA-B biology and complementary antibody validation, visit our HLA-B Antibody JOAN-1 / MHC Class I HLA-B Antibody page.

Application Notes

The stated application concentrations are suggested starting points. Titration of the HLA-B Heavy Chain Antibody / HLA-B Alpha Chain Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 62-90 from the human protein was used as the immunogen for the HLA-B Heavy Chain Antibody.

Storage

Aliquot the HLA-B Heavy Chain Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

HLA-B Heavy Chain antibody, HLA-B Alpha Chain antibody, HLA-B antibody, Human Leukocyte Antigen B antibody, MHC Class I HLA-B antibody

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