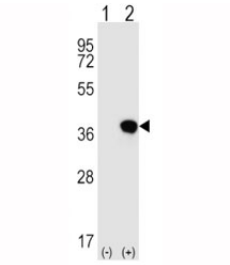
HLAG Antibody / HLA Class I Histocompatibility Antigen G Antibody (F51441)

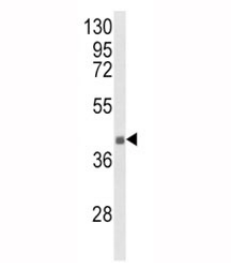
Catalog No.	Formulation	Size
F51441-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F51441-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

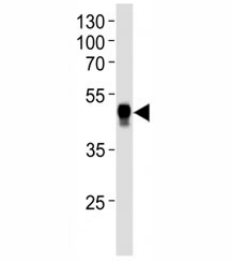
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P17693
Applications	Western blot: 1:1000 IHC (Paraffin): 1:10-1:50 Flow Cytometry: 1:10-1:50
Limitations	This HLAG Antibody / HLA Class I Histocompatibility Antigen G Antibody is available for research use only.



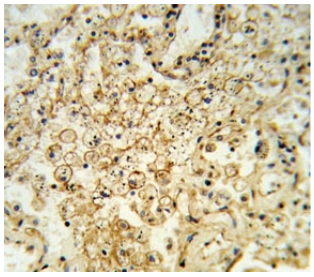
HLAG Antibody Detection in HLA-G Transfected 293 Cells WB. Western blot analysis of nontransfected (lane 1) and HLA-G-transfected (lane 2) human 293 cell lysates using HLAG Antibody. A strong band at approximately 40 kDa is detected in the HLA-G-transfected sample but not in the nontransfected control, demonstrating specific recognition of HLA Class I Histocompatibility Antigen G.



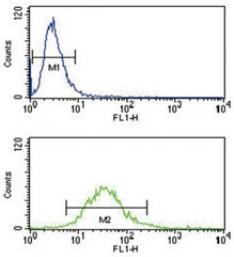
HLAG Antibody Detection in NCI-H460 Lung Cancer Cells WB. Western blot analysis of human NCI-H460 lung cancer cell lysate using HLAG Antibody. A discrete immunoreactive band is detected at approximately 40-45 kDa, consistent with the predicted molecular weight of HLA-G and demonstrating detection of endogenous HLA Class I Histocompatibility Antigen G.



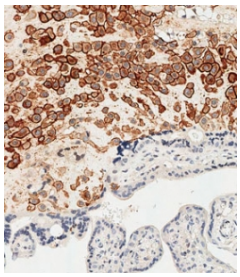
HLAG Antibody Detection in Human Placenta WB. Western blot analysis of human placenta tissue lysate using HLAG Antibody at 1:1000. A prominent immunoreactive band is detected at approximately 45-50 kDa, consistent with HLA-G expression in placental tissue.



HLAG Antibody Staining of Human Lung Carcinoma IHC. Immunohistochemistry of FFPE human lung carcinoma tissue using HLAG Antibody. Strong membranous and cytoplasmic HLA-G staining is observed in a population of malignant cells, demonstrating detection of HLA Class I Histocompatibility Antigen G in lung carcinoma.



HLAG Antibody Staining of NCI-H460 Lung Cancer Cells FACS. Flow cytometry analysis of human NCI-H460 lung cancer cells using HLAG Antibody. The HLA-G-stained population (bottom histogram, green) shows a clear fluorescence shift compared with the negative control (top histogram, blue). FITC-conjugated goat anti-rabbit IgG was used as the secondary antibody, demonstrating detection of HLA Class I Histocompatibility Antigen G in NCI-H460 cells.



HLAG Antibody Staining of Human Placenta IHC. Immunohistochemistry of FFPE human placenta tissue using HLAG Antibody. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 EDTA buffer for 20 min followed by cooling before testing. Strong HLA-G staining is observed in placental trophoblast cells, consistent with the characteristic expression of this non-classical MHC class I molecule at the maternal-fetal interface.

Description

HLAG Antibody / HLA Class I Histocompatibility Antigen G Antibody detects human leukocyte antigen G (HLA-G), a non-classical major histocompatibility complex class I molecule involved in immune regulation and tolerance. HLA-G differs from the classical HLA-A, HLA-B and HLA-C molecules in its relatively restricted physiological expression and specialized immunoregulatory functions. It is particularly associated with fetal-derived placental trophoblast cells at the maternal-fetal interface, where regulation of maternal immune responses contributes to fetal tolerance.

HLA-G is a class I heavy chain protein that can associate with beta-2 microglobulin. The HLA-G gene undergoes alternative splicing to produce multiple membrane-associated and soluble isoforms. These different forms contribute to

the complex biology of HLA-G and have generated interest in its functions in both local and systemic immune regulation. HLA-G can interact with inhibitory immune receptors, including LILRB1/ILT2 and LILRB2/ILT4, providing mechanisms through which the protein can influence lymphoid and myeloid immune cell activity.

The immunoregulatory properties of HLA-G are particularly important in reproductive immunology. Expression at the maternal-fetal interface is associated with trophoblast-mediated immune tolerance and protection of fetal tissues from inappropriate maternal immune responses. HLA-G is therefore widely investigated in studies of placental biology, pregnancy and mechanisms that establish immune tolerance. The restricted physiological distribution of HLA Class I Histocompatibility Antigen G also makes changes in its expression of interest in pathological settings.

HLA-G has been investigated in cancer because tumor-associated expression may contribute to immune escape. By engaging inhibitory receptors and modulating immune effector functions, HLA-G may help create a more tolerogenic tumor microenvironment. Expression has consequently been examined across multiple malignancies and is studied alongside immune checkpoint proteins and other regulators of antitumor immunity. HLA-G is also investigated in transplantation, inflammatory disease and infection, reflecting its broader role in controlling immune recognition.

Because HLA-G expression can vary according to cellular state and biological context, an HLAG Antibody provides a useful research tool for examining this non-classical MHC class I molecule. Analysis of HLA-G can complement studies of classical HLA proteins, leukocyte inhibitory receptors and other molecules involved in antigen recognition and immune tolerance.

For a monoclonal reagent targeting this immunoregulatory molecule, see our HLA-G Antibody HLAG/6686 / MHC Class I Antigen G page. NSJ Bioreagents provides antibodies for research into HLA proteins and mechanisms of immune recognition and regulation. An HLAG Antibody can be used to investigate HLA Class I Histocompatibility Antigen G and its roles in maternal-fetal tolerance, immune regulation and cancer biology.

Application Notes

Titration of the HLAG Antibody / HLA Class I Histocompatibility Antigen G Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 62-89 from the human protein was used as the immunogen for this HLA-G antibody.

Storage

Aliquot the HLA-G antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

HLA-G antibody, MHC class I antigen G antibody, HLA class I histocompatibility antigen alpha chain G antibody, HLA-G histocompatibility antigen antibody

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