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HLA-G Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AW5220

Specification

HLA-G Antibody - Product Information

Application	**WB,E**
Primary Accession	P17693
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Calculated MW	**H=38 KDa**
Isotype	**IgG1**
Antigen Source	**HUMAN**

HLA-G Antibody - Additional Information

Gene ID 3135

Antigen Region
1-318

Other Names
HLA-G;HLA-6.0; HLAG; HLA class I histocompatibility antigen, alpha chain G; HLA class I histocompatibility antigen, alpha chain G; HLA G antigen; HLA class I histocompatibility antigen, alpha chain G; MHC class I antigen G

Dilution
WB~~1:1000

Target/Specificity
Purified His-tagged HLA-G protein was used to produced this monoclonal antibody.

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
HLA-G Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

HLA-G Antibody - Protein Information

Name HLA-G {ECO:0000303|PubMed:1570318, ECO:0000312|HGNC:HGNC:4964}

Function

[Isoform 1]: Non-classical major histocompatibility class Ib molecule involved in immune regulatory processes at the maternal-fetal interface (PubMed:19304799, PubMed:23184984, PubMed:29262349). In complex with B2M/beta-2 microglobulin binds a limited repertoire of nonamer self-peptides derived from intracellular proteins including histones and ribosomal proteins (PubMed:7584149, PubMed:8805247). Peptide-bound HLA-G-B2M complex acts as a ligand for inhibitory/activating KIR2DL4, LILRB1 and LILRB2 receptors on uterine immune cells to promote fetal development while maintaining maternal- fetal tolerance (PubMed:16366734, PubMed:19304799, PubMed:20448110, PubMed:23184984, PubMed:27859042, PubMed:29262349). Upon interaction with KIR2DL4 and LILRB1 receptors on decidual NK cells, it triggers NK cell senescence-associated secretory phenotype as a molecular switch to promote vascular remodeling and fetal growth in early pregnancy (PubMed:16366734, PubMed:19304799, PubMed:23184984, PubMed:29262349). Through interaction with KIR2DL4 receptor on decidual macrophages induces pro-inflammatory cytokine production mainly associated with tissue remodeling (PubMed:19304799). Through interaction with LILRB2 receptor triggers differentiation of type 1 regulatory T cells and myeloid-derived suppressor cells, both of which actively maintain maternal-fetal tolerance (PubMed:20448110, PubMed:27859042). May play a role in balancing tolerance and antiviral-immunity at maternal-fetal interface by keeping in check the effector functions of NK, CD8+ T cells and B cells (PubMed:10190900, PubMed:11290782, PubMed:24453251). Reprograms B cells toward an immune suppressive phenotype via LILRB1 (PubMed:24453251). May induce immune activation/suppression via intercellular membrane transfer (trogocytosis), likely enabling interaction with KIR2DL4, which resides mostly in endosomes (PubMed:20179272, PubMed:26460007). Through interaction with the inhibitory receptor CD160 on endothelial cells may control angiogenesis in immune privileged sites (PubMed:16809620).

Cellular Location

[Isoform 1]: Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane. Early endosome membrane [Isoform 2]: Cell membrane; Single-pass type I membrane protein [Isoform 4]: Cell membrane; Single-pass type I membrane protein [Isoform 6]: Secreted Cell projection, filopodium membrane. Note=HLA-G trogocytosis from extravillous trophoblast's filopodia occurs in the majority of decidual NK cells.

Tissue Location

Expressed in adult eye (PubMed:1570318). Expressed in immune cell subsets including monocytes, myeloid and plasmacytoid dendritic cells and regulatory T cells (Tr1)(at protein level)

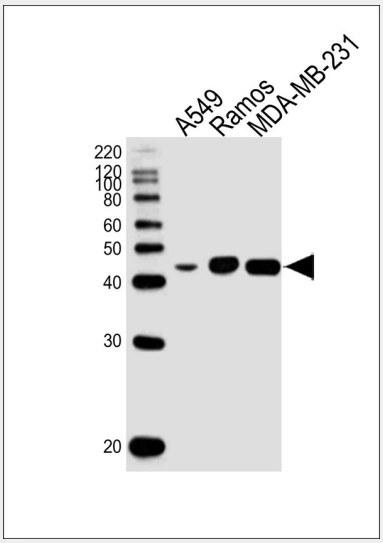
(PubMed:20448110). Secreted by follicular dendritic cell and follicular helper T cells (PubMed:24453251) [Isoform 7]: Expressed in placenta, amniotic membrane, skin, cord blood and peripheral blood mononuclear cells

HLA-G Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HLA-G Antibody - Images



Western blot analysis of lysates from A549,Ramos,MDA-MB-231 cell line (from left to right), using HLA-G Antibody(Cat. #AW5220). AW5220 was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.

HLA-G Antibody - Background

Involved in the presentation of foreign antigens to the immune system. Plays a role in maternal tolerance of the fetus by mediating protection from the deleterious effects of natural killer cells, cytotoxic T-lymphocytes, macrophages and mononuclear cells.

HLA-G Antibody - References

Shukla H., et al. Nucleic Acids Res. 18:2189-2189(1990).
Geraghty D.E., et al. Proc. Natl. Acad. Sci. U.S.A. 84:9145-9149(1987).
Ishitani A., et al. Submitted (APR-1992) to the EMBL/GenBank/DDBJ databases.
Hampe A., et al. DNA Seq. 10:263-299(1999).
Shiina S., et al. Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.