

HLA-G Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8941c

Specification

HLA-G Antibody (Center) - Product Information

Application	IHC-P-Leica, FC, WB,E
Primary Accession	P17693
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	62-89

HLA-G Antibody (Center) - Additional Information

Gene ID 3135

Other Names

HLA class I histocompatibility antigen, alpha chain G, HLA G antigen, MHC class I antigen G, HLA-G, HLA-60, HLAG

Target/Specificity

This HLA-G antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 62-89 amino acids from the Central region of human HLA-G.

Dilution

IHC-P-Leica~~1:500

FC~~1:25

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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 (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

HLA-G Antibody (Center) - 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 tropocytosis from extravillous trophoblast's filopodia occurs in the majority of decidual NK cells.

Tissue Location

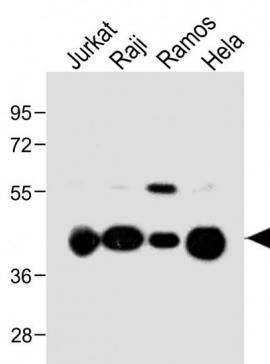
Expressed in adult eye (PubMed:1570318). Expressed in immune cell subsets including monocytes, myeloid and plasmacytoid dendritic cells and regulatory T cells (Tr1)(at protein level) (PubMed:20448110). Secreted by follicular dendritic cell and follicular helper T cells (PubMed:24453251) [Isoform 7]: Expressed in placenta, amniotic membrane, skin, cord blood and peripheral blood mononuclear cells

HLA-G Antibody (Center) - Protocols

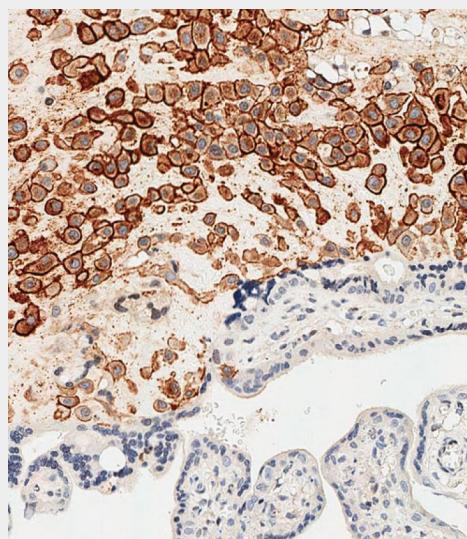
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

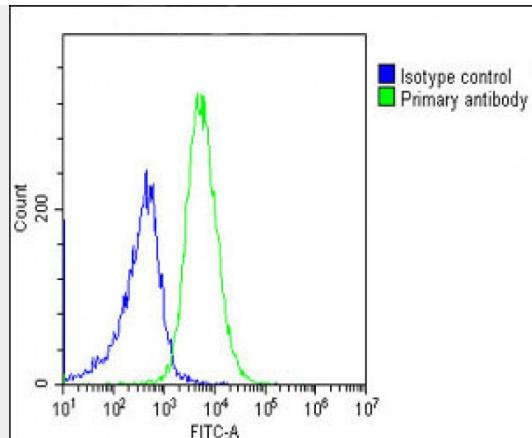
HLA-G Antibody (Center) - Images



All lanes : Anti-HLA-G Antibody (Center) at 1:1000 dilution Lane 1: Jurkat whole cell lysate Lane 2: Raji whole cell lysate Lane 3: Ramos whole cell lysate Lane 4: HeLa whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 38 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemical analysis of paraffin-embedded Human placenta tissue using AP8941c performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9.0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Overlay histogram showing Ramos cells stained with AP8941c (green line). The cells were fixed with 2% paraformaldehyde (10 min). The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP8941c, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (OH191631) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was rabbit IgG1 (1 μ g/1 \times 10 6 cells) used under the same conditions. Acquisition of >10,000 events was performed.

HLA-G Antibody (Center) - Background

HLA-G belongs to the HLA class I heavy chain paralogues. This class I molecule is a heterodimer consisting of a heavy chain and a light chain (beta-2 microglobulin). The heavy chain is anchored in the membrane. HLA-G is expressed on fetal derived placental cells. The heavy chain is approximately 45 kDa and its gene contains 8 exons. Exon one encodes the leader peptide, exons 2 and 3 encode the alpha1 and alpha2 domain, which both bind the peptide, exon 4 encodes the alpha3 domain, exon 5 encodes the transmembrane region, and exon 6 encodes the cytoplasmic tail.

HLA-G Antibody (Center) - References

Walpole, N.G., et.al., J. Mol. Biol. 397 (2), 467-480 (2010)
Tian, W., et.al., Tissue Antigens 75 (3), 227-234 (2010)

HLA-G Antibody (Center) - Citations

- [microRNA-210/ Long non-coding RNA MEG3 axis inhibits trophoblast cell migration and invasion by suppressing EMT process](#)
- [PFKFB3 regulates lipopolysaccharide-induced excessive inflammation and cellular dysfunction in HTR-8/SVneo cells: Implications for the role of PFKFB3 in preeclampsia](#)
- [MicroRNA-210 regulates human trophoblast cell line HTR-8/SVneo function by attenuating Notch1 expression: Implications for the role of microRNA-210 in pre-eclampsia.](#)
- [LncRNA MEG3 inhibits trophoblast invasion and trophoblast-mediated VSMC loss in uterine spiral artery remodeling.](#)
- [EPHB4 Regulates Human Trophoblast Cell Line HTR-8/SVneo Function: Implications for the Role of EPHB4 in Preeclampsia.](#)