abcam

ab52454

Anti-HLA G antibody [G233]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing HLA-G protein. The exact immunogen used to generate this antibody is proprietary information. Database link P17693
Clone number	G233
Purification technique	Affinity purification Protein A
Specificity	ab52454 recognises several isoforms of HLA-G expressed in all populations of extravillous trophoblast (cell columns, interstitial trophoblast, endovascular trophoblast, placental bed giant cells). It does not cross-react with any other MHC Class I antigens (HLA-A, -B, -C, -E, -F).
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from hybridoma culture supernatant. Purity >95% by SDS-PAGE.

Reactivity data

ICC/IF

Tested

Species	Human

Dilution info	10 µg/mL
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1-4 µg/mL
Notes	-

Target data

See full target information HLA-G

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). Isoform 2. Likely does not bind B2M and presents peptides. Negatively regulates NK cell- and CD8+ T cell-mediated cytotoxicity (PubMed:11290782). Isoform 3. Likely does not bind B2M and presents peptides. Negatively regulates NK cell- and CD8+ T cell-mediated cytotoxicity (PubMed:11290782). Isoform 4. Likely does not bind B2M and presents peptides.

Negatively regulates NK cell- and CD8+ T cell-mediated cytotoxicity (PubMed:11290782). Isoform 5. 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: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). Reprograms B cells toward an immune suppressive phenotype via LILRB1 (PubMed:24453251). Isoform 6. Likely does not bind B2M and presents peptides. Isoform 7. Likely does not bind B2M and presents peptides.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

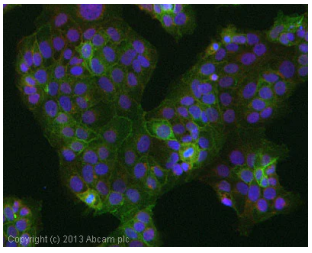
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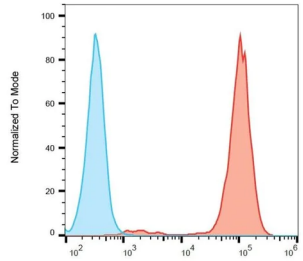
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-HLA G antibody [G233] (ab52454)

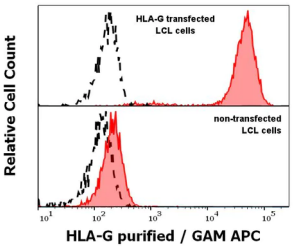
HLA G Immunocytochemistry/ Immunofluorescence staining using mouse Anti-HLA G antibody

ICC/IF image of ab52454 stained Jeg3 cells. The cells were 4% paraformaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab52454, 10µg/ml) overnight at +4°C. The secondary antibody (green) was ab96879, DyLight® 488 goat anti-mouse IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Flow Cytometry - Anti-HLA G antibody [G233] (ab52454)

Flow cytometry analysis (surface staining) of HLA-G in HLA-G transfectants using ab52454 purified / GAM-APC at 4 µg/ml. Blue - K562 cells. Red - HLA-G transfected LCL cells.



Flow Cytometry - Anti-HLA G antibody [G233] (ab52454)

HLA G Flow Cytometry staining using mouse Anti-HLA G antibody

ab52454 (concentration in sample 5 µg/ml, GAM APC, red-filled histogram) binds specifically to HLA-G expressed on surface of HLA-G transfected LCL cells (upper panel), but not to surface of non-transfected LCL cells (lower panel).
Level of non-specific binding was assessed using Mouse IgG1 isotype control purified antibody (MOPC-21) under same conditions (concentration in sample 5 µg/ml, GAM APC, black-dashed histogram).

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