Datasheet for ABIN125728

anti-HLAG antibody (PE)

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Overview

Quantity:	0.1 mg
Target:	HLAG
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This HLAG antibody is conjugated to PE
Application:	Flow Cytometry (FACS)

Product Details

Immunogen:	HLA-B27 transgenic mice were imunized with H-2 identical murine cells transfected with and expressing genes encoding HLA-G and human beta2-microglobulin.
Clone:	87G
Isotype:	IgG2a
Specificity:	The antibody 87G recognizes both membrane-bound and soluble forms of HLA-G (HLA-G1 and HLA-G5). HLA-G belongs to the MHC Class I molecules (MHC Class Ib, nonclassical) and it is expressed on the surface of trophoblast cells.
No Cross-Reactivity:	Mouse, Rat
Cross-Reactivity (Details):	Human
Purification:	Purified antibody is conjugated with R-phycoerythrin (PE) under optimum conditions. Unconjugated antibody and free fluorochrome are removed by size-exclusion chromatography.

Target Details

Target:	HLAG
Alternative Name:	HLA-G (HLAG Products)
Background:	Major histocompatibility complex, class I, G,Human leukocyte antigen G (HLA-G), belonging to MHC class I glycoproteins, plays important roles in both physiological and pathological immunotolerance. It gives an inhibitory signal to cytotoxic T cells, NK cells, monocytes, and some other immune cells. It also induces regulatory T cells and anti-inflammatory macrophages. HLA-G is important e.g. for maternal tolerance to the fetus, and for immunomodulation in particular adult tissues, such as in cornea, pancreatic islets, thymus and other. On the other hand, it is expressed in many solid and hematologic malignancies, where it contributes to evasion of the immune surveillance. HLA-G expression pattern in cancer is an important prognostic factor regarding a poor clinical outcome. Unlike most other MHC glycoproteins, HLA-G acts as an immune checkpoint molecule rather than as an antigen presenting molecule. It concerns both transmembrane and soluble HLA-G isoforms. Among other, HLA-G can promote Th2 immunological response and downregulate Th1 immunological response. For its benefits regarding allograft tolerance, including embryo implantation, soluble HLA-G (sHLA-G) can be used as a marker of developmental potential of embryos during the process of in vitro fertilization. Similarly, sHLA-G concentrations in maternal serum are decreased in preeclampsia. Transplanted patients with increased sHLA-G serum levels have improved allograft acceptance. On the other hand, increased sHLA-G can also indicate presence of malignant (sometimes also of benign) tumor cells. Another important topic is induction of HLA-G expression (sometimes associated with shedding of HLA-G from the cell surface) by some anti-cancer or anti-viral therapies, which can weaken the therapy effect. Monitoring of HLA-G in patients thus has a wide usage.
Gene ID:	3135
UniProt:	P17693
Pathways:	Regulation of Leukocyte Mediated Immunity, Positive Regulation of Immune Effector Process, Cancer Immune Checkpoints

Application Details

Application Notes:	Flow cytometry: Extracellular and intracellular staining, recommended dilution: 2-3 µg/mL, positive control: JEG-3 human choriocarcinoma epithelial cell line.
Comment:	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography.

Application Details

Restrictions:	For Research Use only

Handling

Concentration:	0.1 mg/mL
Buffer:	Stabilizing Tris buffered saline (TBS), pH 8.0, 15 mM sodium azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	**Do not freeze.** Avoid prolonged exposure to light.
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Protect from prolonged exposure to light. Do not freeze.

Publications

Product cited in:

Jørgensen, Sayed, Jeppesen, Persson, Weisdorf, Funck, Hviid: "Characterization of HLA-G Regulation and HLA Expression in Breast Cancer and Malignant Melanoma Cell Lines upon IFN-γ Stimulation and Inhibition of DNA Methylation." in: **International journal of molecular sciences**, Vol. 21, Issue 12, (2020) (PubMed).

LeMaoult, Caumartin, Daouya, Favier, Le Rond, Gonzalez, Carosella: "Immune regulation by pretenders: cell-to-cell transfers of HLA-G make effector T cells act as regulatory cells." in: **Blood**, Vol. 109, Issue 5, pp. 2040-8, (2007) (PubMed).

Shobu, Sageshima, Tokui, Omura, Saito, Nagatsuka, Nakanishi, Hayashi, Hatake, Ishitani: "The surface expression of HLA-F on decidual trophoblasts increases from mid to term gestation." in: **Journal of reproductive immunology**, Vol. 72, Issue 1-2, pp. 18-32, (2006) (PubMed).

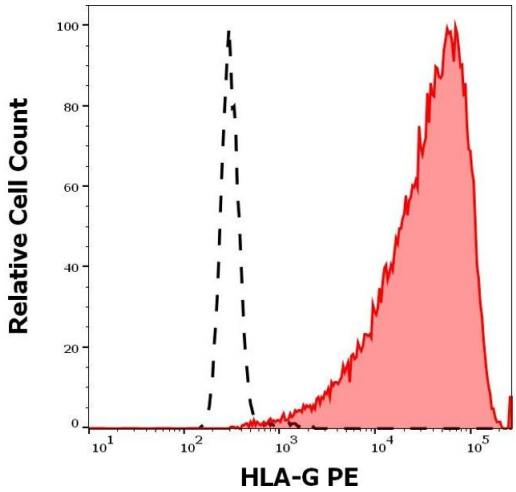
Rouas-Freiss, Moreau, Ferrone, Carosella: "HLA-G proteins in cancer: do they provide tumor cells with an escape mechanism?" in: **Cancer research**, Vol. 65, Issue 22, pp. 10139-44, (2005) (PubMed).

Hackmon, Hallak, Krup, Weitzman, Sheiner, Kaplan, Weinstein: "HLA-G antigen and parturition: maternal serum, fetal serum and amniotic fluid levels during pregnancy." in: **Fetal diagnosis**

and therapy, Vol. 19, Issue 5, pp. 404-9, (2004) (PubMed).

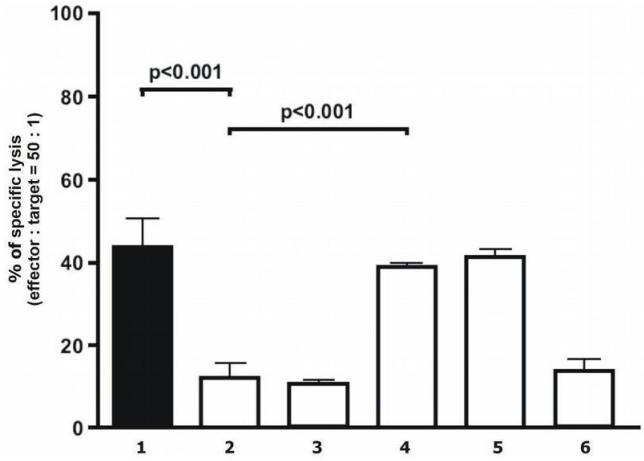
There are more publications referencing this product on: Product page

Images



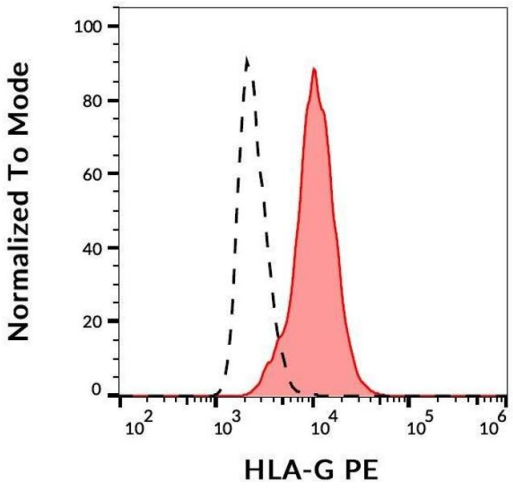
Flow Cytometry

Image 1. Separation of HLA-G transfected LCL cells (red-filled) from non-transfected LCL cells (black-dashed) in flow cytometry analysis (surface staining) stained using anti-HLA-G (87G) PE antibody (concentration in sample 10 µ g/mL).



Activity Assay

Image 2. Analysis of cytolytical activity Analysis of cytolytical activity of human polyclonal NK cells on target melanoma cells. Blocking of HLA-G1 on transfectants with anti-human HLA-G (87G) restored specific lysis. Target cells: M8 cell line transfected with empty vector (column 1) and with HLA-G1 cDNA (columns 2-6). Blocking antibodies: Column 1-2: none Column 3: Isotype mouse IgG2a control Column 4: anti-human HLA-G (87G) purified Column 5: anti-human HLA-G (87G) F(ab)2 fragment Column 6: anti-human HLA-G (MEM-G/9



Flow Cytometry

Image 3. Surface staining of HLA-G transfectants with anti-HLA-G antibody (87G) PE.