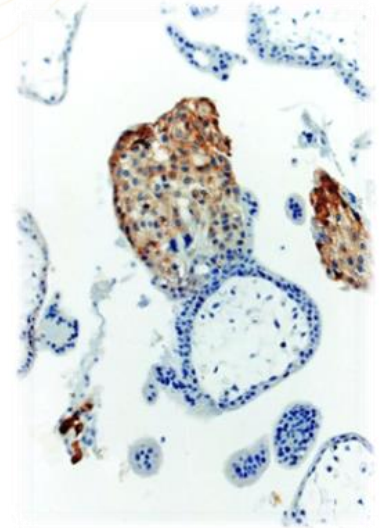


## HLA-G Antibodies

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.



Immunohistochemistry analysis (DAB visualization) of paraffin-embedded section of human first-trimester placenta using the antibody MEM-G/1

Antibody clone	Isotype	Flow cytometry	Immunohistochemistry		Western blotting	ELISA	Blocking	Specificity
			Frozen sections	Paraffin sections				
MEM-G/1	IgG1	poor	very good	very good	excellent	see footnote <sup>1</sup>	negative	all HLA-G isoforms (denatured)
MEM-G/9	IgG1	excellent	excellent	negative	negative	excellent	negative	HLA-G1 and HLA-G5 (conformational)
MEM-G/11	IgG1	excellent	excellent	not tested	negative	good	negative	HLA-G1 (conformational)
5A6G7	IgG1	poor	excellent	excellent	very good	excellent	negative	HLA-G5 and HLA-G6 (anti-peptide)
2A12	IgG1	excellent (intracellular)	very good	excellent	excellent	good	negative	HLA-G5 and HLA-G6 (anti-peptide)
MEM-G/2	IgG1	poor	very good	excellent	very good	not tested	negative	all HLA-G isoforms (denatured)
87G <sup>2</sup>	IgG2a	excellent	excellent	negative	negative	very good	excellent	HLA-G1 and HLA-G5 (conformational)
01G	IgG1	very good	very good	negative	negative	good	negative	HLA-G1 (conformational)
G233	IgG2a	good	not tested	not tested	not tested	good	not tested	several HLA-G isoforms
4H84	IgG1	not tested	not tested	good	good	good	not tested	all HLA-G isoforms
MEM-G/4	IgG1	poor	not tested	not tested	excellent	not tested	negative	HLA-G1, HLA-G2, HLA-G5 (denatured)

<sup>1</sup> Antibody MEM-G/1 is excellent detection antibody in ELISA system detecting free HLA-G heavy chains.

<sup>2</sup> Applications currently under revision

## EXBIO portfolio

## sHLA-G ELISA Kit

### • Monoclonal Antibodies

- wide portfolio against different targets mainly CD markers
- many fluorochrome formats
- about 900 antigens
- nearly 1 000 clones

### • Kombitests

- wide offer of premixed cocktails of monoclonal antibodies:
  - 2 color reagents
  - 3 color reagents
  - 4 color reagents
  - 6 color reagents

### • Flow Cytometry Kits

- for Allergy Analysis
  - BasoFlowEx® Kit + Allergens
- for T-lymphocytes Proliferation Analysis
  - T-cell BlastoFlowEx® Kit + Mitogens
- for Phagocytosis Analysis
  - FagoFlowEx® Kit
  - IngoFlowEx® Kit
- for NK cells Activation Analysis
  - NKFlowEx® Kit
- for Human Reproduction Analysis
  - SpermFlowEx® Kit
- for T-regulation cells Analysis
  - TregFlowEx® Kit
- for Cell Cycle Analysis
  - ApoFlowEx® Kit
  - CellCycleFlowEx® Kit
- for Stem cells Analysis
  - CD34QuantiFlowEx® Kit

### • Lysing Solutions

- EXCELLYSE® Easy
- EXCELLYSE® Live
- EXCELLYSE® I
- EXCELLYSE® XPerm

The kit is suitable for the determination of soluble forms of Human Leukocyte Antigen-G (sHLA-G) in amniotic fluid, cell culture supernatant, plasma and serum.

In this sHLA-G ELISA, standards and samples are incubated in microtitration wells coated with mouse monoclonal antibody **MEM-G/9**, which recognizes the most abundant soluble isoforms, shedded HLA-G1 and intron4-containing secreted HLA-G5.

Immobilized antibody/sHLA-G complex is detected by mouse monoclonal anti-human beta2-microglobulin antibody conjugated with horseradish peroxidase (HRP).

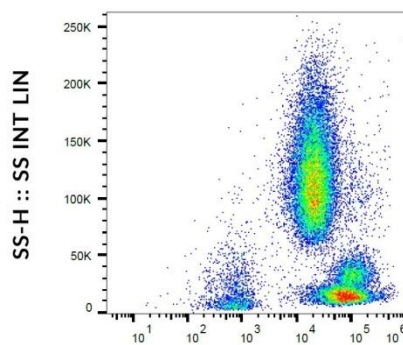
Product	Cat. No.	Quantity
Human sHLA-G ELISA	RD194070100R	96 tests

## HLA-ABCE Antibodies

Besides 11 anti-HLA-G monoclonal antibody clones in various formats, EXBIO offers unique antibody detecting **anti-HLA-ABCE molecules**.

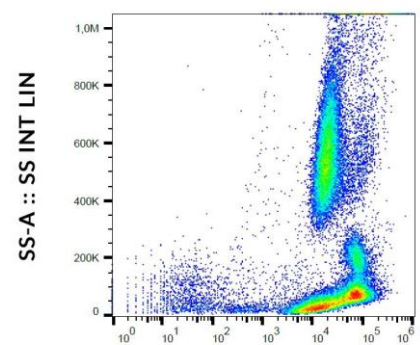
The **clone TP25.99SF** recognizes HLA-ABC and HLA-E, but not HLA-G. It can be used for discrimination between HLA-G and other HLA-class I antigens.

Format	Cat. No.	Application
Purified	11-813-C100	FC, WB, IHC(F)
PE	1P-813-C100	FC
Alexa Fluor® 488	A4-813-C100	FC



HLA-ABCE Purified / GAM APC

Flow cytometry analysis of human peripheral blood cells stained with anti-HLA-ABCE (clone TP25.99SF, purified, GAM-APC)

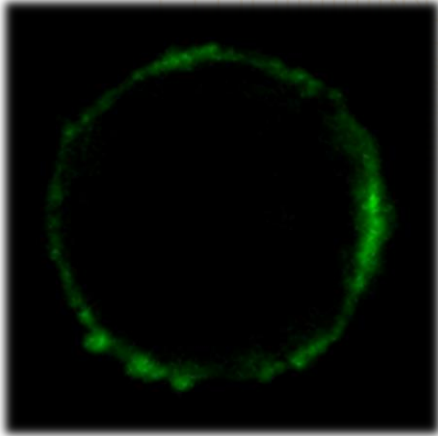


HLA-ABCE Alexa Fluor® 488

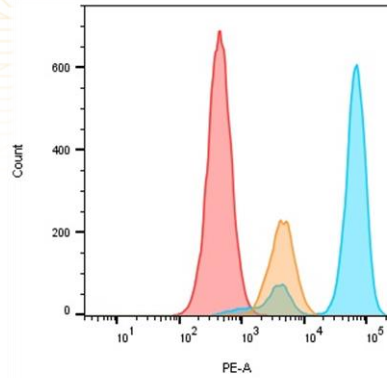
Flow cytometry analysis of human peripheral blood stained with anti-HLA-ABCE (clone TP25.99SF, Alexa Fluor® 488)

# exbio

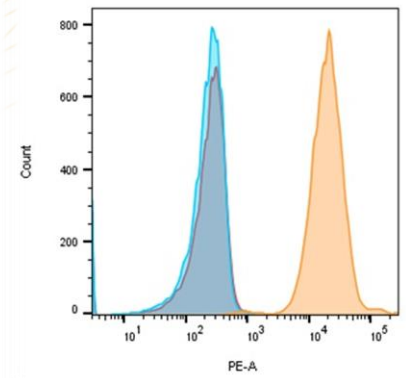
A Brighter Future in Flow



Immunofluorescence staining of HLA-G1 transfectants (LCL-HLA-G1) using anti-human HLA-G (clone MEM-G/9) Alexa Fluor® 488 Fab-fragment

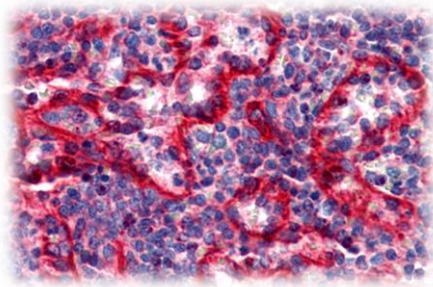


Flow cytometry analysis of human peripheral blood leukocytes stained with anti-HLA-ABCE (clone TP25.99SF, orange), anti-HLA-G (clone MEM-G/9, PE, red) and isotype control (blue).

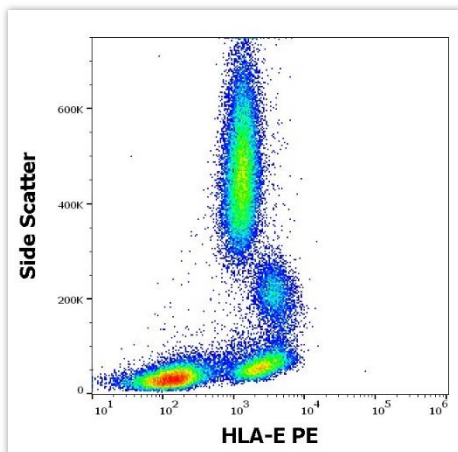


Flow cytometry analysis of LCL-HLA-G transfectants stained with anti-HLA-G (clone MEM-G/9, red), anti-HLA-ABCE (clone TP25.99SF, blue) and isotype control (orange).

## Other related products



Immunohistochemistry staining of human spleen (paraffin sections) with anti-HLA-E (clone MEM-E/07)



Flow cytometry surface staining pattern of human peripheral blood stained using anti-human HLA-E (3D12) PE antibody (concentration in sample 2 µg/ml).

Antigen	Antibody clone	Isotype	Application
HLA-ABCE	TP25.99SF	IgG1	WB, FC
HLA-A2	BB7.2	IgG2b	FC, IP
HLA-B7	BB7.1	IgG1	FC
HLA-C	DT-9	IgG2b	IP, FC
HLA-Class I	MEM-147	IgG1	FC, IP, WB
HLA Class I	MEM-81	IgG1	FC
HLA Class I	MEM-123	IgG3	FC, IP, ELISA
HLA Class I	W6/32	IgG2a	FC, IP, WB, IHC(F), ICC, ELISA, MC, FUNC
HLA-DQ1+DQ3	HL-37	IgG3	FC, IP, WB
HLA-DR	HL-39	IgG3	FC, IP
HLA-DR	MEM-12	IgG1	FC, IP, WB
HLA-DR	L243	IgG2a	FC, IP, WB, IHC(P), IHC(F), ICC, FUNC
HLA-DR+DP	HL-38	IgG2a	FC, IP, WB, IHC(P)
HLA-DR+DP	HL-40	IgG2a	FC, IP, IHC(P)
HLA-DR+DP	MEM-136	IgG1	FC, IP, WB, IHC(P)
HLA-DR1 (empty)	MEM-267	IgG2b	WB, FC, ELISA
HLA-E	3D12	IgG1	FC, IP, ELISA
HLA-E	MEM-E/02	IgG1	WB, IHC(P)
HLA-E	MEM-E/06	IgG1	FC, IP, IHC(P)
HLA-E	MEM-E/07	IgG1	FC, IP, IHC(P)
HLA-E	MEM-E/08	IgG1	FC, IP
HLA-F	3D11	IgG1	FC, WB

\* For laboratory research only, not for drug, diagnostic or other use.

# exbio

A Brighter Future in Flow

## EXBIO history

- **1998** EXBIO Praha, a.s. company founded, focused on the manufacture of monoclonal antibodies
- **2000** EXBIO develops and starts manufacturing first fluorochrome-conjugated monoclonal antibodies for flow cytometry applications
- **2003** First EXBIO own facility: Company moves from technological incubator into its own building (EXBIO I, 800 m<sup>2</sup>)
- **2010** Research and production capacity expansion: New Research and Technology Centre opened (EXBIO II, 2200 m<sup>2</sup>)
- **2014** Further expansion of production capacity: New Manufacturing Centre (EXBIO III, 1100 m<sup>2</sup>) approved by local authorities
- **2018** EXBIO Valley: New extension of the complex of buildings by two more facilities (3 500 m<sup>2</sup> and 500 m<sup>2</sup>) approved by local authorities
- **2020** EXBIO acquires Apronex, a small biotech company with expertise in recombinant protein technologies, in order to meet growing customers demands specifically on allergy-screening assays

## About us

Helping our customers to clearly see every cell in the flow.

EXBIO is a leading manufacturer of monoclonal antibodies and reagents for research and clinical applications with focus on multi-color flow cytometry analysis of human cellular markers.

Our comprehensive portfolio of more than 4 000 off-the-shelf products covers a diverse set of areas including Hematology, Immunology, Cancer, Stem cells, and Cell Biology. With the experienced cytometry experts and biotech engineers, EXBIO offers to our customers long-term validated antibody markers in the broad selection of fluorochrome conjugates.

Our commitment to the customer's needs, supported by our integrated quality management system compliant with ISO 13485:2016 and ISO 9001:2015 allow us to accomplish our mission.

EXBIO strives to exceed the most demanding customer expectations in the field of analytical cytometry by providing a comprehensive portfolio of high quality products and services at affordable prices.

## Vision: A Brighter Future in Flow

EXBIO Praha, a.s.

Nad Safinou II 341 / 252 50 Vestec / Czech Republic  
info@exbio.cz / orders@exbio.cz / technical@exbio.cz

[www.exbio.cz](http://www.exbio.cz)

