abcam

ab11820

Anti-HLA E antibody [MEM-E/07]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human HLA-E. Database link P13747
Clone number	MEM-E/07
Purification technique	Affinity purification Protein A
Specificity	The antibody recognized native surface-expressed HLA E, but not denaturated heavy chain of HLA E. The published results revealed that the antibody cross-reacts with some classical MHC Class I molecules: HLA B7 (strongly), HLA B8 (moderately), HLA B27, HLA-B44 (weakly).
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from hybridoma culture supernatant by protein A-affinity chromatography.

Reactivity data

IHC-P

Expected

Species	Human
Dilution info	10 g/mL
Notes	-

Flow Cyt

Tested

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

Target data

See full target information HLA-E

Function

Non-classical major histocompatibility class Ib molecule involved in immune self-nonself discrimination. In complex with B2M/beta-2-microglobulin binds nonamer self-peptides derived from the signal sequence of classical MHC class Ia molecules (VL9 peptides - VMAPRT[V/L][L/V/I/F]L) (PubMed:18083576, PubMed:18339401, PubMed:35705051, PubMed:37264229, PubMed:9754572). Peptide-bound HLA-E-B2M heterotrimeric complex primarily functions as a ligand for natural killer (NK) cell inhibitory receptor KLRD1-KLRC1, enabling NK cells to monitor the expression of other MHC class I molecules in healthy cells and to tolerate self (PubMed:17179229, PubMed:18083576, PubMed:37264229, PubMed:9486650, PubMed:9754572). Upon cellular stress, preferentially binds signal sequence-derived peptides from stress-induced chaperones and is no longer recognized by NK cell inhibitory receptor KLRD1-KLRC1, resulting in impaired protection from NK cells (PubMed:12461076). Binds signal sequence-derived peptides from non-classical MHC class Ib HLA-G molecules and acts as a ligand for NK cell activating receptor KLRD1-KLRC2, likely playing a role in the generation and effector functions of adaptive NK cells and in maternal-fetal tolerance during pregnancy (PubMed:30134159, PubMed:37264229, PubMed:9754572). Besides self-peptides, can also bind and present pathogen-derived peptides conformationally similar to VL9 peptides to alpha-beta T cell receptor (TCR) on unconventional CD8-positive cytotoxic T cells, ultimately triggering antimicrobial immune response (PubMed:16474394, PubMed:20195504, PubMed:30087334, PubMed:34228645). Presents HIV gag peptides (immunodominant KAFSPEVIPMF and subdominant KALGPAATL epitopes) predominantly to CD8-positive T cell clones expressing a TRAV17-containing TCR, triggering HLA-E-restricted T cell responses (PubMed:34228645). Presents mycobacterial peptides to HLA-E-restricted CD8-positive T cells eliciting both cytotoxic and immunoregulatory functions (PubMed:20195504, PubMed:35705051). (Microbial infection) Viruses like human cytomegalovirus have evolved an escape mechanism whereby virus-induced down-regulation of host MHC class I molecules is coupled to the binding of viral peptides to HLA-E, restoring HLA-E expression and inducing HLA-E-dependent NK cell

immune tolerance to infected cells. (Microbial infection) May bind HIV-1 gag/Capsid protein p24-derived peptide (AISPRTLNA) on infected cells and may inhibit NK cell cytotoxicity, a mechanism that allows HIV-1 to escape immune recognition. (Microbial infection) Upon SARS-CoV-2 infection, may contribute to functional exhaustion of cytotoxic NK cells and CD8-positive T cells (PubMed:32859121). Binds SARS-CoV-2 S/Spike protein S1-derived peptide (LQPRTFLL) expressed on the surface of lung epithelial cells, inducing NK cell exhaustion and dampening of antiviral immune surveillance (PubMed:32859121).

Storage

Shipped at conditions	Blue Ice
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

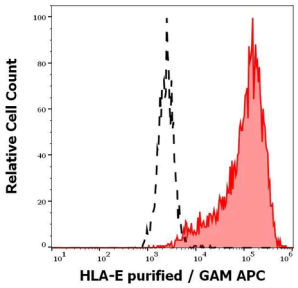
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:

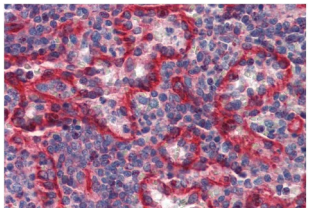
2 product images



Flow Cytometry - Anti-HLA E antibody [MEM-E/07] (ab11820)

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

Flow cytometry analysis showing separation of HLA-E transfected LCL cells stained using ab11820 (concentration in sample 2 µg/ml, red-filled) from HLA-E transfected LCL cells stained using mouse IgG1 isotype control purified antibody (concentration in sample 2 µg/ml, same as HLA-E purified antibody concentration, black-dashed).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HLA E antibody [MEM-E/07] (ab11820)

Immunohistochemistry parafin embedded sections staining of huam spleen tissue using ab11820.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.