ARG42360
anti-HLA E antibody [3D12] (PE)

Package: 50 µg
Store at: 4°C

Summary

Product Description	PE-conjugated Mouse Monoclonal antibody [3D12] recognizes HLA E
Tested Reactivity	Hu
Tested Application	FACS
Specificity	The mouse monoclonal antibody 3D12 (also known as 3D12HLA-E) recognizes native extracellular part of HLA-E, an ubiquitously expressed non-classical MHC class I molecule, as well as free HLA-E.
Host	Mouse
Clonality	Monoclonal
Clone	3D12
Isotype	IgG1
Target Name	HLA E
Species	Human
Immunogen	Human HLA E.
Conjugation	PE
Alternate Names	MHC class I antigen E; QA1; EA2.1; HLA-6.2; EA1.2; MHC; HLA class I histocompatibility antigen, alpha chain E

Application Instructions

Application table

Application	Dilution
FACS	1 - 5 µg/ml

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

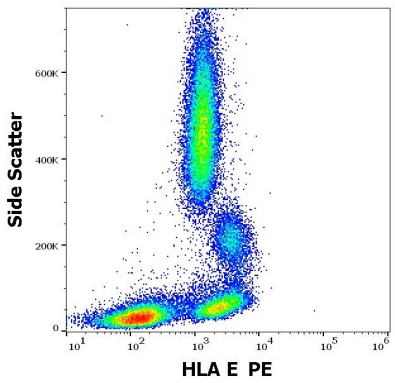
Properties

Form	Liquid
Purification	Purified
Buffer	PBS and 15 mM Sodium azide.
Preservative	15 mM Sodium azide
Concentration	0.1 mg/ml
Storage instruction	Aliquot and store in the dark at 2-8°C. Keep protected from prolonged exposure to light. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

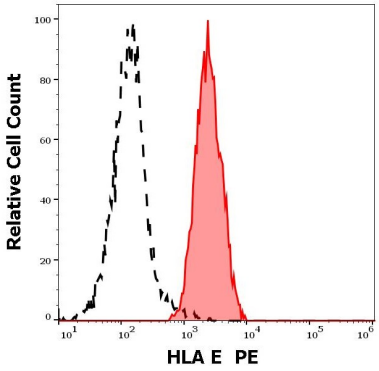
Gene Symbol	HLA-E
Gene Full Name	major histocompatibility complex, class I, E
Background	HLA-E belongs to the HLA class I heavy chain paralogues. This class I molecule is a heterodimer consisting of a heavy chain and a light chain (beta-2 microglobulin). The heavy chain is anchored in the membrane. HLA-E binds a restricted subset of peptides derived from the leader peptides of other class I molecules. 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 domains, which both bind the peptide, exon 4 encodes the alpha3 domain, exon 5 encodes the transmembrane region, and exons 6 and 7 encode the cytoplasmic tail. [provided by RefSeq, Jul 2008]
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) (PubMed:9754572, PubMed:18083576, PubMed:18339401). 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:9754572, PubMed:9486650, PubMed:17179229, PubMed:18083576). 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:9754572, PubMed:30134159). 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+ cytotoxic T cells, ultimately triggering antimicrobial immune response (PubMed:16474394, PubMed:30087334). (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. [UniProt]
Calculated Mw	40 kDa
Cellular Localization	Membrane; Single-pass type I membrane protein. [UniProt]

Images



ARG42360 anti-HLA E antibody [3D12] (PE) FACS image

Flow Cytometry: Human peripheral blood stained with ARG42360 anti-HLA E antibody [3D12] (PE) at 2 µg/ml dilution.



ARG42360 anti-HLA E antibody [3D12] (PE) FACS image

Flow Cytometry: Separation of Human lymphocytes (red-filled) from blood debris (black-dashed). Human peripheral whole blood stained with ARG42360 anti-HLA E antibody [3D12] (PE) at 2 µg/ml dilution.