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HLA-E antibody - C-terminal region

Rabbit Polyclonal Antibody
Catalog # AI14874

Product Information

Application	WB
Primary Accession	P13747
Other Accession	NM_005516, NP_005507
Reactivity	Human, Mouse, Pig
Predicted	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40058

Additional Information

Gene ID	3133
Alias Symbol	DKFZp686P19218, EA1.2, EA2.1, HLA-6.2, MHC, QA1
Other Names	HLA class I histocompatibility antigen, alpha chain E, MHC class I antigen E, HLA-E, HLA-6.2, HLAE
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-HLA-E antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	HLA-E antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HLA-E {ECO:0000303|PubMed:9486650, ECO:0000312|HGNC:HGNC:4962}
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).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Golgi apparatus membrane

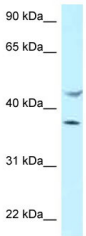
Tissue Location

Expressed in secretory endometrial cells during pregnancy (at protein level). The expression in nonlymphoid tissues is restricted to endothelial cells from all types of vessels, including arteries, veins, capillaries, and lymphatics (at protein level). In lymphoid organs, it is mainly expressed in endothelial venules, B and T cells, monocytes, macrophages, NK cells and megakaryocytes (at protein level).

References

Mizuno S.,et al.J. Immunol. 140:4024-4030(1988).
Ulbrecht M.,et al.Eur. J. Immunol. 29:537-547(1999).
Ishitani A.,et al.Submitted (JUN-2002) to the EMBL/GenBank/DDBJ databases.
Shiina S.,et al.Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
Koller B.H.,et al.J. Immunol. 141:897-904(1988).

Images



WB Suggested Anti-HLA-E Antibody Titration: 1.0 µg/ml
Positive Control: MCF7 Whole Cell

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