SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-E (MEM-E/06): sc-51622

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) molecules, which include human leukocyte antigens (HLAs), form an integral part of the immune response system. They are cell-surface receptors that bind foreign peptides and present them to cytotoxic T lymphocytes (CTLs). MHC class I molecules consist of two polypeptide chains, an α or heavy chain and a non-covalently associated protein, β-2-Microglobulin. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes. HLA-A is a MHC class I heavy chain molecule that plays a central role in the immune system by presenting peptides derived from the endoplasmic reticulum lumen. HLA-B and HLA-C are proteins encoded by closely related genes that also exist in the MHC class I. HLA-E belongs to the HLA class I heavy chain paralogs. HLA-E is a heterodimer consisting of a heavy chain and a light chain. 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.

REFERENCES

1. Menier, C., et al. 2003. Characterization of monoclonal antibodies recognizing HLA-G or HLA-E: new tools to analyze the expression of nonclassical HLA class I molecules. Hum. Immunol. 64: 315-326.
2. Mazzarino, P., et al. 2005. Identification of effector-memory CMV-specific T lymphocytes that kill CMV-infected target cells in an HLA-E-restricted fashion. Eur. J. Immunol. 35: 3240-3247.
3. Palmisano, G.L., et al. 2005. HLA-E surface expression is independent of the availability of HLA class I signal sequence-derived peptides in human tumor cell lines. Hum. Immunol. 66: 1-12.
4. Moya-Quiles, M.R., et al. 2005. Lack of association between HLA-E polymorphism and primary cutaneous melanoma in Spanish patients. J. Dermatol. Sci. 40: 62-64.
5. Joly, E., et al. 2006. The orthology of HLA-E and H2-Qa1 is hidden by their concerted evolution with other MHC class I molecules. Biol. Direct. 1: 2.
6. Bhalla, A., et al. 2006. Comparison of the expression of human leukocyte antigen HLA-G and HLA-E in women with normal pregnancy and those with recurrent miscarriage. Reproduction 131: 583-589.
7. Ishitani, A., et al. 2006. The involvement of HLA-E and -F in pregnancy. J. Reprod. Immunol. 69: 101-113.

CHROMOSOMAL LOCATION

Genetic locus: HLA-E (human) mapping to 6p21.33.

SOURCE

HLA-E (MEM-E/06) is a mouse monoclonal antibody raised against recombinant HLA-E of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

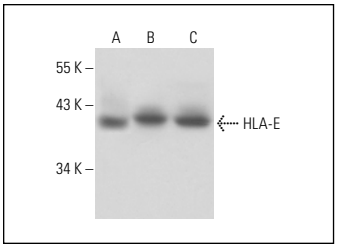
HLA-E (MEM-E/06) is recommended for detection of native surface-expressed HLA-E of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for HLA-E siRNA (h): sc-62470, HLA-E shRNA Plasmid (h): sc-62470-SH and HLA-E shRNA (h) Lentiviral Particles: sc-62470-V.

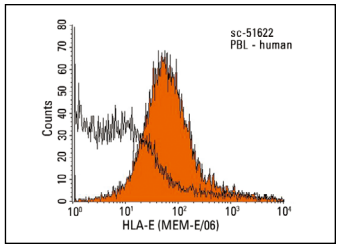
Molecular Weight of HLA-E: 40 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, BJAB whole cell lysate: sc-2207 or CCRF-CEM cell lysate: sc-2225.

DATA



HLA-E (MEM-E/06): sc-51622. Western blot analysis of HLA-E expression in human PBL (**A**), BJAB (**B**) and CCRF-CEM (**C**) whole cell lysates.



HLA-E (MEM-E/06): sc-51622. Indirect FCM analysis of human peripheral blood leukocytes stained with HLA-E (MEM-E/06), followed by PE-conjugated goat anti-mouse IgG_1: sc-3764. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

SELECT PRODUCT CITATIONS

1. Deuse, T., et al. 2011. Immunogenicity and immunomodulatory properties of umbilical cord lining mesenchymal stem cells. Cell Transplant. 20: 655-667.
2. Stubbendorff, M., et al. 2013. Immunological properties of extraembryonic human mesenchymal stromal cells derived from gestational tissue. Stem Cells Dev. 22: 2619-2629.
3. Kim, N., et al. 2020. PVR and ICAM-1 on blast crisis CML stem and progenitor cells with TKI resistance confer susceptibility to NK cells. Cancers 12: E1923.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.