

HLA-E (MEM-E/02): sc-51621

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

- 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.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

HLA-E (MEM-E/02) is a mouse monoclonal antibody raised against recombinant HLA-E denatured heavy chain of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HLA-E (MEM-E/02) is recommended for detection of denatured heavy chain of HLA-E of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

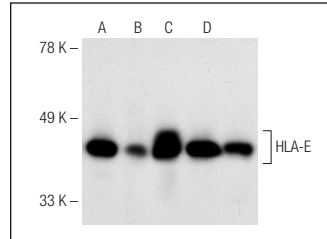
Molecular Weight of HLA-E: 40 kDa.

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

STORAGE

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

DATA



HLA-E (MEM-E/02): sc-51621. Western blot analysis of HLA-E expression in BJAB (A), K-562 (B), AML-193 (C), CCRF-CEM (D) and MEG-01 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

- Chen, A., et al. 2011. Expression of the nonclassical HLA class I MICA/B molecules in human hepatocellular carcinoma. *Neoplasma* 58: 371-376.
- La Rocca, G., et al. 2013. Human Wharton's jelly mesenchymal stem cells maintain the expression of key immunomodulatory molecules when subjected to osteogenic, adipogenic and chondrogenic differentiation *in vitro*: new perspectives for cellular therapy. *Curr. Stem Cell Res. Ther.* 8: 100-113.
- Anzalone, R., et al. 2013. Isolation and characterization of CD276⁺/HLA-E⁺ human subendocardial mesenchymal stem cells from chronic heart failure patients: analysis of differentiative potential and immunomodulatory markers expression. *Stem Cells Dev.* 22: 1-17.
- Näsman, A., et al. 2013. MHC class I expression in HPV positive and negative tonsillar squamous cell carcinoma in correlation to clinical outcome. *Int. J. Cancer* 132: 72-81.
- Cai, Y.J., et al. 2014. A study of the immune properties of human umbilical cord lining epithelial cells. *Cytotherapy* 16: 631-639.
- Engels, C.C., et al. 2015. The prognostic and predictive value of Tregs and tumor immune subtypes in postmenopausal, hormone receptor-positive breast cancer patients treated with adjuvant endocrine therapy: a Dutch TEAM study analysis. *Breast Cancer Res. Treat.* 149: 587-596.
- Corsello, T., et al. 2019. Wharton's jelly mesenchymal stromal cells from human umbilical cord: a close-up on immunomodulatory molecules featured *in situ* and *in vitro*. *Stem Cell Rev. Rep.* 15: 900-918.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.