SANTA CRUZ BIOTECHNOLOGY, INC.

# HLA-E (3H2679): sc-71262

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.


## CHROMOSOMAL LOCATION

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

## SOURCE

HLA-E (3H2679) is a mouse monoclonal antibody raised against recombinant HLA-E denatured heavy chain of human origin.

## PRODUCT

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

## APPLICATIONS

HLA-E (3H2679) 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 µg per 100-500 µg 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.

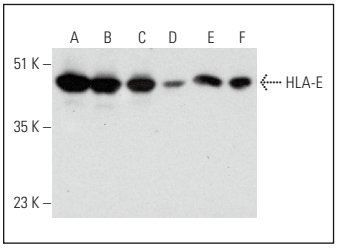
Molecular Weight of HLA-E: 40 kDa.

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

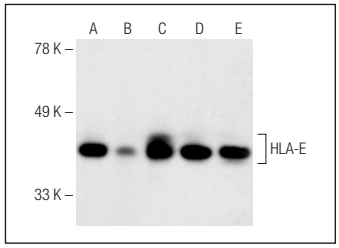
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA




HLA-E (3H2679): sc-71262. Western blot analysis of HLA-E expression in BJAB (**A**), HL-60 (**B**), MDA-MB-231 (**C**), MCF7 (**D**), Raji (**E**) and THP-1 (**F**) whole cell lysates.




HLA-E (3H2679): sc-71262. 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


1. Özgül Özdemir, R.B., et al. 2016. A comparison of cancer stem cell markers and nonclassical major histocompatibility complex antigens in colorectal tumor and noncancerous tissues. Ann. Diagn. Pathol. 25: 60-63.
2. Zhen, Z., et al. 2016. Involvement of IL-10 and TGF-β in HLA-E-mediated neuroblastoma migration and invasion. Oncotarget 7: 44340-44349.
3. Rees, J.S., et al. 2020. Identification of the cis-molecular neighbours of the immune checkpoint protein B7-H4 in the breast cancer cell-line SK-BR-3 by proteomic proximity labelling. Int. J. Oncol. 57: 87-99.


## 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.

## PROTOCOLS

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