SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-A/B/C (D-2): sc-271388

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) molecules form an integral part of the immune response system. They are cell-surface receptors that bind peptides and present them to T lymphocytes. Human leukocyte antigens (HLAs) are polymorphic members of the MHC family that are specifically involved in the presentation of antigens to the T cell receptor. There are two classes of HLA antigens: class I (HLA-A, HLA-B and HLA-C) and class II (HLA-D). Class I molecules are expressed in nearly all cells and play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum. 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, -B and -C encode membrane anchored heavy chains which heterodimerize with a light chain (β-2-Microglobulin) to form MHC-I. Polymorphisms yield hundreds of HLA-A, -B and -C alleles.

CHROMOSOMAL LOCATION

Genetic locus: HLA-A (human) mapping to 6p22.1, HLA-B/HLA-C (human) mapping to 6p21.33.

SOURCE

HLA-A/B/C (D-2) is a mouse monoclonal antibody raised against amino acids 25-324 mapping within an internal region of HLA-A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HLA-A/B/C (D-2) is available conjugated to agarose (sc-271388 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271388 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271388 PE), fluorescein (sc-271388 FITC), Alexa Fluor® 488 (sc-271388 AF488), Alexa Fluor® 546 (sc-271388 AF546), Alexa Fluor® 594 (sc-271388 AF594) or Alexa Fluor® 647 (sc-271388 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271388 AF680) or Alexa Fluor® 790 (sc-271388 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

HLA-A/B/C (D-2) is recommended for detection of HLA-A, HLA-B and HLA-C antigens of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

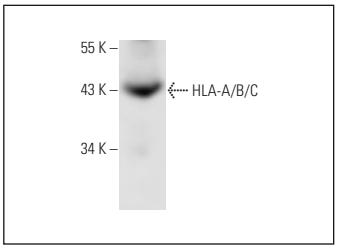
Molecular Weight of HLA-A/B/C: 46 kDa.

Positive Controls: CCRF-CEM whole cell lysate: sc-2225 or HeLa whole cell lysate: sc-2200.

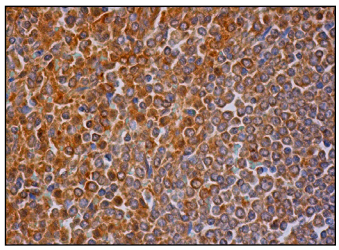
RECOMMENDED SUPPORT REAGENTS

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-A/B/C (D-2): sc-271388. Western blot analysis of HLA-A/B/C expression in CCRF-CEM whole cell lysate.



HLA-A/B/C (D-2): sc-271388. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp.

SELECT PRODUCT CITATIONS

1. 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.
2. Anzalone, R., et al. 2013. Isolation and characterization of $CD276^+$/$HLA\text{-}E^+$ human subendocardial mesenchymal stem cells from chronic heart failure patients: analysis of differentiative potential and immunomodulatory markers expression. Stem Cells Dev. 22: 1-17.
3. 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.

STORAGE

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

PROTOCOLS

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