SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-C (D-9): sc-166057

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) class II molecules destined for presentation to CD4+ helper T cells is determined by two key events. These events include the dissociation of class II-associated invariant chain peptides (CLIP) from an antigen binding groove in MHC II-α/β dimers through the activity of MHC molecules HLA-DM and -DO, and subsequent peptide antigen binding. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM, -DO molecules regulate the dissociation of CLIP and the subsequent binding of exogenous peptides to HLA class II molecules (HLA-DR, -DQ and -DP) by sustaining a conformation that favors peptide exchange. RFLP analysis of HLA-DM genes from rheumatoid arthritis (RA) patients suggests that certain polymorphisms are genetic factors for RA susceptibility. HLA-B belongs to the HLA class I heavy chain paralogs. Class I molecules play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum lumen. HLA-B and -C can form heterodimers consisting of a membrane anchored heavy chain and a light chain (β-2-Microglobulin). Polymorphisms yield hundreds of HLA-B and -C alleles.

REFERENCES

1. Kropshofer, H., et al. 1998. A role for HLA-DO as a co-chaperone of HLA-DM in peptide loading of MHC class II molecules. EMBO J. 17: 2971-2981.
2. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.
3. Arndt, S.O., et al. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. EMBO J. 19: 1241-1251.
4. Brunet, A., et al. 2000. Functional characterization of a lysosomal sorting motif in the cytoplasmic tail of HLA-DOβ. J. Biol. Chem. 275: 37062-37071.
5. Doebele, C.R., et al. 2000. Determination of the HLA-DM interaction site on HLA-DR molecules. Immunity 13: 517-527.

CHROMOSOMAL LOCATION

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

SOURCE

HLA-C (D-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 91-123 within an internal region of HLA-C 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.

Blocking peptide available for competition studies, sc-166057 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

HLA-C (D-9) is recommended for detection of HLA-C 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HLA-C siRNA (h): sc-105525, HLA-C shRNA Plasmid (h): sc-105525-SH and HLA-C shRNA (h) Lentiviral Particles: sc-105525-V.

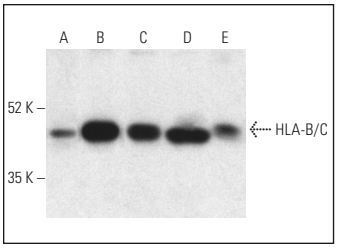
Molecular Weight of HLA-C: 43 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or HLA-B (h): 293T Lysate: sc-113341.

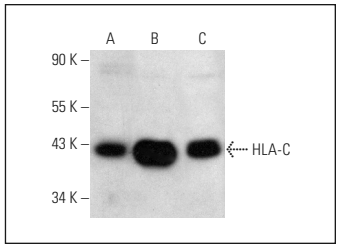
RECOMMENDED SUPPORT REAGENTS

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.

DATA



HLA-C (D-9): sc-166057. Western blot analysis of HLA-B/C expression in non-transfected 293T: sc-117752 (**A**), human HLA-B transfected 293T: sc-113341 (**B**), Ramos (**C**), U-698-M (**D**) and T24 (**E**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



HLA-C (D-9): sc-166057. Western blot analysis of HLA-C expression in HeLa (**A**), CCRF-CEM (**B**) and Jurkat (**C**) whole cell lysates.

RESEARCH USE

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

CONJUGATES

See **MHC class I (W6/32): sc-32235** for MHC class I antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.