

HLA-B/C (A-3): sc-166668

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-B and HLA-C encode membrane anchored heavy chains which hetero-dimerize with a light chain (β -2-Microglobulin) to form MHC-I. Polymorphisms yield hundreds of HLA-B and HLA-C alleles.

REFERENCES

1. Kropshofer, H., et al. 1998. A role for HLA-DO as a cochaperone 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-DO β . *J. Biol. Chem.* 275: 37062-37071.

CHROMOSOMAL LOCATION

Genetic locus: HLA-B/HLA-C (human) mapping to 6p21.33; H2-L/H2-Q (mouse) mapping to 17 B1.

SOURCE

HLA-B/C (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 120-150 within an internal region of HLA-B/C of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HLA-B/C (A-3) is available conjugated to agarose (sc-166668 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166668 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166668 PE), fluorescein (sc-166668 FITC), Alexa Fluor® 488 (sc-166668 AF488), Alexa Fluor® 546 (sc-166668 AF546), Alexa Fluor® 594 (sc-166668 AF594) or Alexa Fluor® 647 (sc-166668 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166668 AF680) or Alexa Fluor® 790 (sc-166668 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166668 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

HLA-B/C (A-3) is recommended for detection of HLA-B and HLA-C of human origin, H2-L and H2-Q of mouse origin, and the corresponding rat homologs by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

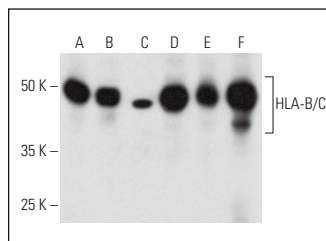
Molecular Weight of HLA-B/C: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or Ramos cell lysate: sc-2216.

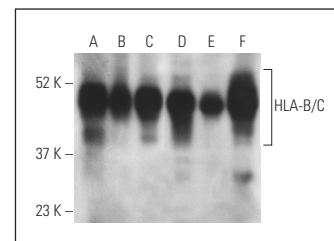
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-B/C (A-3): sc-166668. Western blot analysis of HLA-B/C expression in HeLa (A), Ramos (B), MCF7 (C), WI-38 (D), SCC-4 (E) and AML-193 (F) whole cell lysates.



HLA-B/C (A-3): sc-166668. Western blot analysis of HLA-B/C expression in AML-193 (A), SCC-4 (B), HeLa (C), Ramos (D), WI-38 (E) and HL-60 (F) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Geng, N., et al. 2022. Identification of DDX60 as a regulator of MHC-I class molecules in colorectal cancer. *Biomedicine* 10: 3092.

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.