HLA-A/B/C (3F10): sc-65288

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.

REFERENCES

1. Salomonsen, J., et al. 1987. The chicken erythrocyte-specific MHC antigen. Characterization and purification of the B-G antigen by monoclonal antibodies. Immunogenetics 25: 373-382.

2. Dunon, D., et al. 1990. Ontogenic appearance of MHC class I (B-F) antigens during chicken embryo-genesis. Dev. Immunol. 1: 127-135.

3. Moller, L.B., et al. 1991. Variations in the cytoplasmic region account for the heterogeneity of the chicken MHC class I (B-F) molecules. Immunogenetics 34: 110-120.

4. Murakami, M., et al. 1999. Autoimmune thyroid disease induced by interferon therapy. Nippon Rinsho 8: 1779-1783.

5. Collins, K.L. and Baltimore, D. 1999. HIV's evasion of the cellular immune response. Immunol. Rev. 168: 65-74.

6. Itoh, K., et al. 2000. Human tumor-rejection antigens and peptides from genes to clinical research. Nippon Geka Gakkai Zasshi 9: 612-617.

7. Tourdot, S., et al. 2000. A general strategy to enhance immunogenicity of low-affinity HLA-A2.1-associated peptides: implication in the identification of cryptic tumor epitopes. Eur. J. Immunol. 12: 3411-3421.

8. Dela Cruz, C.S., et al. 2000. Creating HIV-1 reverse transcriptase cytotoxic T lymphocyte target structures by HLA-A2 heavy chain modifications. Int. Immunol. 9: 1293-1302.

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 (3F10) is a mouse monoclonal antibody raised against HSB-2 T cell line of human origin.

PRODUCT

Each vial contains 100 μg IgG$_{2a}$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HLA-A/B/C (3F10) is recommended for detection of HLA-A, HLA-B and HLA-C of human origin by 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 flow cytometry (1 μg per 1 x 10^6 cells).

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

DATA
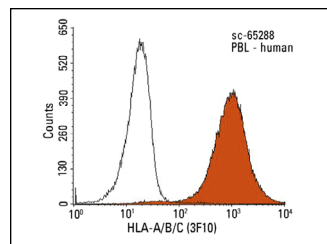
HLA-A/B/C (3F10): sc-65288. Indirect FCM analysis of human peripheral blood leukocytes stained with HLA-A/B/C (3F10), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG$_{2a}$: sc-3878.

SELECT PRODUCT CITATIONS

1. Garcia-Exposito, L., et al. 2011. HIV-1 requires Arf6-mediated membrane dynamics to efficiently enter and infect T lymphocytes. Mol. Biol. Cell 22: 1148-1166.

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.

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.