SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DR/DP (MEM-136): sc-51618

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. Horejsi, V., et al. 1986. Characterization of seven new monoclonal antibodies against human DR, DR + DP and DQ1 + DQ3 antigens. Tissue Antigens 28: 288-297.
2. Horejsi, V., et al. 1986. Monoclonal antibodies against human leucocyte antigens. I. Antibodies against β-2-Microglobulin, immunoglobulin κ light chains, HLA-DR-like antigens, T8 antigen, T1 antigen, a monocyte antigen and a pan-leucocyte antigen. Folia Biol. 32: 12-25.
3. 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.
4. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.
5. Arndt, S.O., et al. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. EMBO J. 19: 1241-1251.
6. 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.

SOURCE

HLA-DR/DP (MEM-136) is a mouse monoclonal antibody raised against PHA-activated peripheral blood lymphocytes of human origin.

PRODUCT

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

HLA-DR/DP (MEM-136) is available conjugated phycoerythrin (sc-51618 PE, 100 tests in 2 ml), for WB (RGB), IF, IHC(P) and FCM.

STORAGE

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

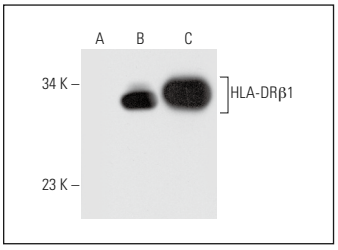
APPLICATIONS

HLA-DR/DP (MEM-136) is recommended for detection of common epitope on β-chain of HLA-DR and HLA-DP, the α/β dimer and the dissociated β-subunit 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)] and flow cytometry (1 µg per 1 x 10^6 cells).

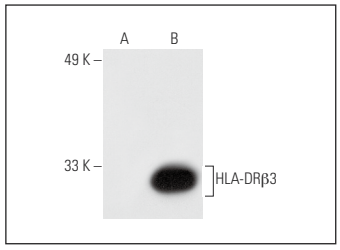
Molecular Weight of HLA-DR/DP β: 30/29 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, HLA-DRβ3 (h): 293T Lysate: sc-110914 or BJAB whole cell lysate: sc-2207.

DATA



HLA-DR/DP (MEM-136): sc-51618. Western blot analysis of HLA-DRβ1 expression in non-transfected 293T: sc-117752 (**A**), human HLA-DRβ1 transfected 293T: sc-115102 (**B**) and BJAB (**C**) whole cell lysates.



HLA-DR/DP (MEM-136): sc-51618. Western blot analysis of HLA-DRβ3 expression in non-transfected: sc-117752 (**A**) and human HLA-DRβ3 transfected: sc-110914 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Paggetti, J., et al. 2015. Exosomes released by chronic lymphocytic leukemia cells induce the transition of stromal cells into cancer-associated fibroblasts. Blood 126: 1106-1117.
2. Wierz, M., et al. 2019. Purification of leukemia-derived exosomes to study microenvironment modulation. Methods Mol. Biol. 1884: 231-245.
3. Bordas, M., et al. 2020. Optimized protocol for isolation of small extracellular vesicles from human and murine lymphoid tissues. Int. J. Mol. Sci. 21: 5586.

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.