SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DR/DP/DQ (WR18): sc-59251

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. 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.

SOURCE

HLA-DR/DP/DQ (WR18) is a mouse monoclonal antibody raised against purified full length HLA 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-DR/DP/DQ (WR18) is recommended for detection of HLA-DR, HLA-DP and HLA-DQ 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)], 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of HLA-DR: 30 kDa.

Molecular Weight of HLA-DP: 29 kDa.

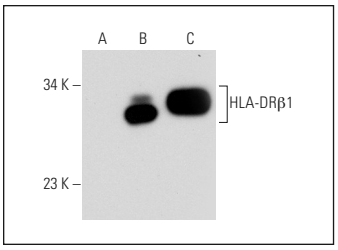
Molecular Weight of HLA-DQ: 29 kDa.

Positive Controls: HLA-DRβ1 (h3): 293T Lysate: sc-115102, BJAB whole cell lysate: sc-2207 or Ramos cell lysate: sc-2216.

STORAGE

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

DATA



HLA-DR/DP/DQ (WR18): sc-59251. 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.

SELECT PRODUCT CITATIONS

1. Allen, C.E., et al. 2010. Cell-specific gene expression in Langerhans cell histiocytosis lesions reveals a distinct profile compared with epidermal Langerhans cells. J. Immunol. 184: 4557-4567.
2. Pi, L.Q., et al. 2013. Effects of calcitonin gene-related peptide on the immune privilege of human hair follicles. Neuropeptides 47: 51-57.

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 **HLA-DR (520B): sc-69673** for HLA-DR antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.