SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DP β1 (H-60): sc-292587

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 class IIα/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 and -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. Heyes, J., Austin, P., Bodmer, J., Bodmer, W., Madrigal, A., Mazzilli, M.C. and Trowsdale, J. 1986. Monoclonal antibodies to HLA-DP-transfected mouse L cells. Proc. Natl. Acad. Sci. USA 83: 3417-3421.
2. Kropshofer, H., Vogt, A.B., Thery, C., Armandola, E.A., Li, B.C., Moldenhauer, G., Amigorena, S. and Hämmerling, G.J. 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.
3. Siegmund, T., Donner, H., Braun, J., Usadel, K.H. and Badenhoop, K. 1999. HLA-DMa and HLA-DMb alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.
4. Arndt, S.O., Vogt, A.B., Markovic-Plese, S., Martin, R., Moldenhauer, G., Wölpl, A., Sun, Y., Schadendorf, D., Hämmerling, G.J. and Kropshofer, H. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. EMBO J. 19: 1241-1251.
5. Brunet, A., Samaan, A., Deshaies, F., Kindt, T.J. and Thibodeau, J. 2000. Functional characterization of a lysosomal sorting motif in the cytoplasmic tail of HLA-DOb. J. Biol. Chem. 275: 37062-37071.
6. Doebele, R.C., Busch, R., Scott, H.M., Pashine, A. and Mellins, E.D. 2000. Determination of the HLA-DM interaction site on HLA-DR molecules. Immunity 13: 517-527.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DPB1 (human) mapping to 6p21.32.

SOURCE

HLA-DP β1 (H-60) is a rabbit polyclonal antibody raised against amino acids 1-60 mapping at the N-terminus of HLA-DP β1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HLA-DP β1 (H-60) is recommended for detection of precursor and mature HLA-DP β1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

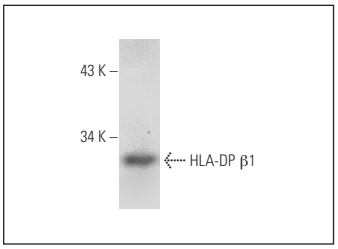
Suitable for use as control antibody for HLA-DP β1 siRNA (h): sc-42915, HLA-DP β1 siRNA (h2): sc-43929, HLA-DP β1 shRNA Plasmid (h): sc-42915-SH, HLA-DP β1 shRNA Plasmid (h2): sc-43929-SH, HLA-DP β1 shRNA (h) Lentiviral Particles: sc-42915-V and HLA-DP β1 shRNA (h2) Lentiviral Particles: sc-43929-V.

Positive Controls: Raji whole cell lysate: sc-364236.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HLA-DP β1 (H-60): sc-292587. Western blot analysis of HLA-DP β1 expression in Raji whole cell lysate.

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.