

HLA-DP β 1 (7-RE35): sc-134357

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 IIa/b 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

- Heyes, J., et al. 1986. Monoclonal antibodies to HLA-DP-transfected mouse L cells. *Proc. Natl. Acad. Sci. USA* 83: 3417-3421.
- 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.
- Siegmund, T., et al. 1999. HLA-DM α and HLA-DM β alleles in German patients with type 1 diabetes mellitus. *Tissue Antigens* 54: 291-294.
- Arndt, S.O., et al. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. *EMBO J.* 19: 1241-1251.
- 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.
- Doebele, R.C., et al. 2000. Determination of the HLA-DM interaction site on HLA-DR molecules. *Immunity* 13: 517-527.
- Louis-Pence, P., et al. 2000. The downregulation of HLA-DM gene expression in rheumatoid arthritis is not related to their promoter polymorphism. *J. Immunol.* 16: 4861-4869.

CHROMOSOMAL LOCATION

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

SOURCE

HLA-DP β 1 (7-RE35) is a mouse monoclonal antibody raised against recombinant HLA-DP β 1 protein of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

HLA-DP β 1 (7-RE35) is recommended for detection of HLA-DP β 1 of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

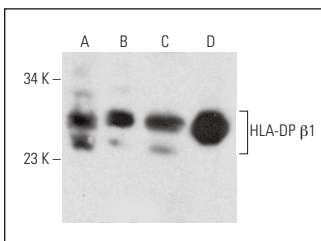
Suitable for use as control antibody for HLA-DP β 1 siRNA (h): sc-42915, HLA-DP β 1 shRNA Plasmid (h): sc-42915-SH and HLA-DP β 1 shRNA (h) Lentiviral Particles: sc-42915-V.

Positive Controls: human kidney extract: sc-363764, U-937 cell lysate: sc-2239 or Hep G2 cell lysate: sc-2227.

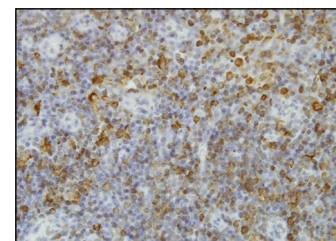
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HLA-DP β 1 (7-RE35): sc-134357. Western blot analysis of HLA-DP β 1 expression in Raji (A), Hep G2 (B) and U-937 (C) whole cell lysates and human kidney tissue extract (D).



HLA-DP β 1 (7-RE35): sc-134357. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymph node tissue showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

- Li, F., et al. 2021. Generation and expression analysis of BAC humanized mice carrying HLA-DP401 haplotype. *Animal Model. Exp. Med.* 4: 116-128.

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.