

HLA-DR β (TAL 14.1): sc-53316

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.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DRB1 (human) mapping to 6p21.32.

SOURCE

HLA-DR β (TAL 14.1) is a mouse monoclonal antibody raised against HLA-DR β of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HLA-DR β (TAL 14.1) is available conjugated to either phycoerythrin (sc-53316 PE) or fluorescein (sc-53316 FITC), 200 μ g/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 β (TAL 14.1) is recommended for detection of HLA-DR β 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 flow cytometry (1 μ g per 1 x 10⁶ cells).

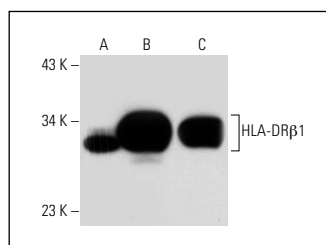
Molecular Weight of HLA-DR β : 30 kDa.

Positive Controls: HLA-DR β (h3): 293T Lysate: sc-115102, JM1 whole cell lysate: sc-364233 or BJAB whole cell lysate: sc-2207.

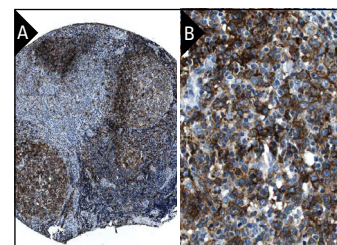
RECOMMENDED SUPPORT REAGENTS

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.

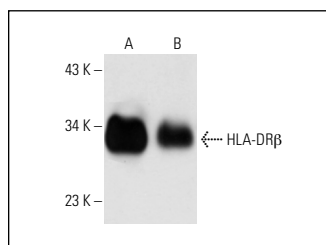
DATA



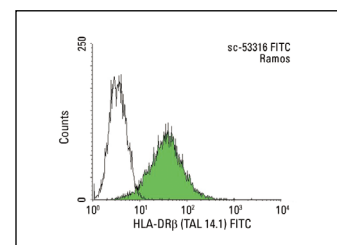
HLA-DR β (TAL 14.1): sc-53316. Western blot analysis of HLA-DR β 1 expression in non-transfected 293T: sc-117752 (A), human HLA-DR β 1 transfected 293T: sc-115102 (B) and BJAB (C) whole cell lysates.



HLA-DR β (TAL 14.1): sc-53316. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining of follicle and non-follicle cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.



HLA-DR β (TAL 14.1): sc-53316. Western blot analysis of HLA-DR β expression in BJAB (A) and JM1 (B) whole cell lysates.



HLA-DR β (TAL 14.1) FITC: sc-53316 FITC. FCM analysis of Ramos cells. Black line histogram represents the isotype control, normal mouse IgG_{2a}-FITC: sc-2856.

SELECT PRODUCT CITATIONS

- Kaushansky, N., et al. 2015. Role of a novel human leukocyte antigen-DQA1*01:02;DRB1*15:01 mixed isotype heterodimer in the pathogenesis of Humanized multiple sclerosis-like disease. *J. Biol. Chem.* 290: 15260-15278.
- Grabowska, K., et al. 2020. Alphaherpesvirus gB homologs are targeted to extracellular vesicles, but they differentially affect MHC class II molecules. *Viruses* 12: 429.

RESEARCH USE

For research use only, not for use in diagnostic procedures.