SANTA CRUZ BIOTECHNO

HLA-DQB1 (Genox 3.53): sc-53313

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 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 and -DO molecules regulate the dissociation of CLIP and the subsequent binding of exogenous peptides to HLA class II molecules (HLA-DR, -DQ, -DP and -DR) 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. The α1 chain of HLA-DQ1 class II molecule (Ia antigen) complex can bind peptides and present them to CD4+ T lymphocytes.

REFERENCES

1. Corte, G., et al. 1981. Human Ia molecules carrying DC1 determinants differ in both α- and β-subunits from Ia molecules carrying DR determinants. Nature 292: 357-360.
2. Bodmer, J.G. and Bodmer, W.F. 1984. Monoclonal antibodies to HLA determinants. Br. Med. Bull. 40: 267-275.
3. 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.
4. Momburg, F., et al. 1987. B cell lymphomas of high-grade malignancy frequently lack HLA-DR, -DP and -DQ antigens and associated invariant chain. Int. J. Cancer 40: 598-603.
5. 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.
6. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.
7. 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.
8. Doebele, C.R., et al. 2000. Determination of the HLA-DM interaction site on HLA-DR molecules. Immunity 13: 517-527.
9. Toussirot, E., et al. 2000. The association of HLA-DM genes with rheumatoid arthritis in Eastern France. Hum. Immunol. 61: 303-308.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DQB1 (human) mapping to 6p21.32.

SOURCE

HLA-DQB1 (Genox 3.53) is a mouse monoclonal antibody raised against Bristol cell line of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HLA-DQB1 (Genox 3.53) is available conjugated to either phycoerythrin (sc-53313 PE) or fluorescein (sc-53313 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

HLA-DQB1 (Genox 3.53) is recommended for detection of HLA-DQB1 allele DQw1 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 flow cytometry (1 µg per 1 x 10^6 cells).

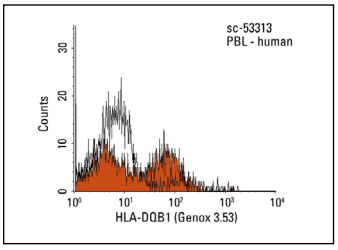
Suitable for use as control antibody for HLA-DQB1 siRNA (h): sc-42918, HLA-DQB1 shRNA Plasmid (h): sc-42918-SH and HLA-DQB1 shRNA (h) Lentiviral Particles: sc-42918-V.

Molecular Weight of HLA-DQB1: 29 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HLA-DQB1 (Genox 3.53): sc-53313. Indirect FCM analysis of human peripheral blood leukocytes stained with HLA-DQB1 (Genox 3.53), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

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.