SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DP (G-9): sc-390694

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 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

1. Heyes, J., et al. 1986. Monoclonal antibodies to HLA-DP-transfected mouse L cells. Proc. Natl. Acad. Sci. USA 83: 3417-3421.
2. 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.
3. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.
4. Arndt, S.O., et al. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. EMBO J. 19: 1241-1251.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DPB1/HLA-DRB1/HLA-DRB4/HLA-DRB5/HLA-DRB3 (human) mapping to 6p21.32; H2-Ab1/H2-Eb1/H2-Eb2 (mouse) mapping to 17 B1.

SOURCE

HLA-DP (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 69-102 of HLA-DP of human origin.

PRODUCT

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

HLA-DP (G-9) is available conjugated to agarose (sc-390694 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390694 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390694 PE), fluorescein (sc-390694 FITC), Alexa Fluor® 488 (sc-390694 AF488), Alexa Fluor® 546 (sc-390694 AF546), Alexa Fluor® 594 (sc-390694 AF594) or Alexa Fluor® 647 (sc-390694 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390694 AF680) or Alexa Fluor® 790 (sc-390694 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HLA-DP (G-9) is recommended for detection of HLA-DP, HLA-DR, HLA-DRβ3, HLA-DRβ4, and HLA-DRβ5 of human origin, HLA-DQB1, H2-Eb1, and H2-Eb2 of mouse origin and the corresponding rat homologs by Western Blotting (starting dilution 1:100, 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).

HLA-DP (G-9) is also recommended for detection of HLA-DP, HLA-DR, HLA-DRβ3, HLA-DRβ4, and HLA-DRβ5 in additional species, including bovine.

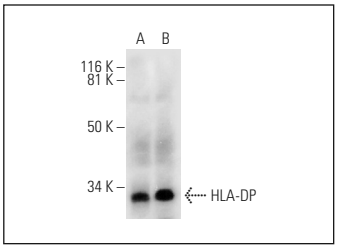
Molecular Weight of HLA-DP: 29 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Raji whole cell lysate: sc-364236 or BJAB whole cell lysate: sc-2207.

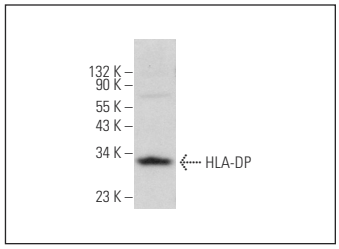
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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-DP (G-9): sc-390694. Western blot analysis of HLA-DP expression in Raji (**A**) and BJAB (**B**) whole cell lysates.



HLA-DP (G-9): sc-390694. Western blot analysis of HLA-DP expression in Hep G2 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.