SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DOβ (DOB.L1): sc-69739

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Peptide (antigen) binding to major histocompatibility complex (MHC) class II molecules destined for presentation to $CD4^+$ helper T cells is determined by two key events. These include the dissociation of class II-associated invariant chain peptides (CLIP) from an antigen binding groove in MHC II-Ig dimers and by the activity of MHC molecules HLA-DM and -DO. 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) 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.

REFERENCES

1. 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.
2. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.

CHROMOSOMAL LOCATION

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

SOURCE

HLA-DOβ (DOB.L1) is a mouse monoclonal antibody raised against the intracytoplasmic portion of HLA-DOβ-chain 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-DOβ (DOB.L1) is available conjugated to agarose (sc-69739 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-69739 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-69739 PE), fluorescein (sc-69739 FITC), Alexa Fluor® 488 (sc-69739 AF488), Alexa Fluor® 546 (sc-69739 AF546), Alexa Fluor® 594 (sc-69739 AF594) or Alexa Fluor® 647 (sc-69739 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-69739 AF680) or Alexa Fluor® 790 (sc-69739 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HLA-DOβ (DOB.L1) is recommended for detection of HLA-DOβ 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

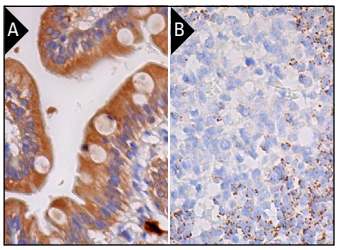
Suitable for use as control antibody for HLA-DOβ siRNA (h): sc-42913, HLA-DOβ shRNA Plasmid (h): sc-42913-SH and HLA-DOβ shRNA (h) Lentiviral Particles: sc-42913-V.

Molecular Weight of HLA-DOβ: 30 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HLA-DOβ (DOB.L1): sc-69739. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in non-germinal center. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216 (**B**).

SELECT PRODUCT CITATIONS

1. Macmillan, H., et al. 2014. The MHC class II cofactor HLA-DM interacts with Ig in B cells. J. Immunol. 193: 2641-2650.
2. Kremer, A.N., et al. 2014. Human leukocyte antigen-DO regulates surface presentation of human leukocyte antigen class II-restricted antigens on B cell malignancies. Biol. Blood Marrow Transplant. 20: 742-747.
3. Crivello, P., et al. 2019. Multiple knockout of classical HLA class II β-chains by CRISPR/Cas9 genome editing driven by a single guide RNA. J. Immunol. 202: 1895-1903.

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.