SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DMβ (E-8): sc-393548

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

HLA-DMβ (HLA class II histocompatibility antigen, DM β chain), also known as DMB or RING7 (really interesting new gene 7 protein), is a 263 amino acid single-pass type I membrane protein that contains one Ig-like C1-type (immunoglobulin-like) domain and belongs to the MHC class II family. While it plays a critical role in catalyzing the release of class II-associated invariant chain peptide (CLIP) from newly synthesized MHC class II molecules, HLA-DMβ also frees the peptide binding site for acquisition of antigenic peptides. In B cells, the interaction between HLA-DM and MHC class II molecules is regulated by HLA-DO. HLA-DMβ exists as a heterodimer made up of an α chain (DMA) and a β chain (DMB). The gene that encodes HLA-DMβ consists of approximately 6,442 bases and maps to human chromosome 6p21.32.

REFERENCES

1. Kelly, A.P., et al. 1991. A new human HLA class II-related locus, DM. Nature 353: 571-573.
2. Carrington, M., et al. 1993. Characterization of HLA-DMB polymorphism. Immunogenetics 38: 446-449.
3. Sanderson, F., et al. 1994. Limited polymorphism in HLA-DM does not involve the peptide binding groove. Immunogenetics 39: 56-58.
4. Radley, E., et al. 1994. Genomic organization of HLA-DMA and HLA-DMB. Comparison of the gene organization of all six class II families in the human major histocompatibility complex. J. Biol. Chem. 269: 18834-18838.
5. Kim, T.G., et al. 1996. Three HLA-DMB variants in Korean patients with autoimmune diseases. Hum. Immunol. 46: 58-60.

CHROMOSOMAL LOCATION

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

SOURCE

HLA-DMβ (E-8) is a mouse monoclonal antibody raised against amino acids 1-263 representing full length HLA-DMβ of human origin.

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-DMβ (E-8) is available conjugated to agarose (sc-393548 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393548 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393548 PE), fluorescein (sc-393548 FITC), Alexa Fluor® 488 (sc-393548 AF488), Alexa Fluor® 546 (sc-393548 AF546), Alexa Fluor® 594 (sc-393548 AF594) or Alexa Fluor® 647 (sc-393548 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393548 AF680) or Alexa Fluor® 790 (sc-393548 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF 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-DMβ (E-8) is recommended for detection of HLA-DMβ of human origin 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), 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-DMβ siRNA (h): sc-42911, HLA-DMβ shRNA Plasmid (h): sc-42911-SH and HLA-DMβ shRNA (h) Lentiviral Particles: sc-42911-V.

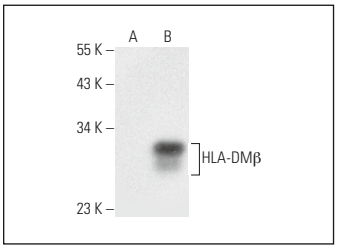
Molecular Weight of HLA-DMβ: 29 kDa.

Positive Controls: HLA-DMβ (h): 293T Lysate: sc-113692.

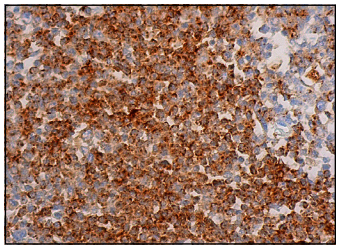
RECOMMENDED SUPPORT REAGENTS

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-DMβ (E-8): sc-393548. Western blot analysis of HLA-DMβ expression in non-transfected: sc-117752 (**A**) and human HLA-DMβ transfected: sc-113692 (**B**) 293T whole cell lysates.



HLA-DMβ (E-8): sc-393548. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of cells in germinal center and cells in non-germinal center.

SELECT PRODUCT CITATIONS

1. 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.

RESEARCH USE

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