SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DMβ (K-20): sc-14540

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.
6. Copier, J., et al. 1996. Targeting signal and subcellular compartments involved in the intracellular trafficking of HLA-DMB. J. Immunol. 157: 1017-1027.
7. Beck, S., et al. 1996. Evolutionary dynamics of non-coding sequences within the class II region of the human MHC. J. Mol. Biol. 255: 1-13.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DMB (human) mapping to 6p21.32; H2-DMb1 (mouse) mapping to 17 B1.

SOURCE

HLA-DMβ (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HLA-DMβ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14540 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

HLA-DMβ (K-20) is recommended for detection of HLA-DMβ of mouse, rat and 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HLA-DMβ (K-20) is also recommended for detection of HLA-DMβ in additional species, including equine.

Suitable for use as control antibody for HLA-DMβ siRNA (h): sc-42911, HLA-DMβ siRNA (m): sc-42912, HLA-DMβ shRNA Plasmid (h): sc-42911-SH, HLA-DMβ shRNA Plasmid (m): sc-42912-SH, HLA-DMβ shRNA (h) Lentiviral Particles: sc-42911-V and HLA-DMβ shRNA (m) Lentiviral Particles: sc-42912-V.

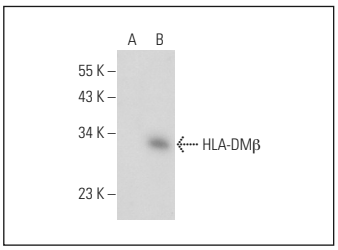
Molecular Weight of HLA-DMβ: 29 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HLA-DMβ (K-20): sc-14540. Western blot analysis of HLA-DMβ expression in non-transfected: sc-117750 (**A**) and human HLA-DMβ transfected: sc-113692 (**B**) whole cell lysates.

STORAGE

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

PROTOCOLS

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