SANTA CRUZ BIOTECHNOLOGY, INC.

H2-I/Abβ (25-9-3): sc-52537

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) molecules form an integral part of the immune response system. They are cell-surface receptors that bind foreign peptides and present them to cytotoxic T lymphocytes (CTLs). MHC class I molecules consist of two polypeptide chains, an a or heavy chain and a non-covalently associated protein, β2 microglobulin. MHC class II molecules consist of a non-covalent complex of an a and b chain and are involved in antigen presentation by Antigen Presenting Cells (APCs) to $CD4^+$ T cells. They are expressed on APCs including B cells, macrophages, monocytes and dendritic cells, and are inducible by interferon gamma on a number of other cells, such as endothelium and epithelial cells. The Mouse H2 Ab locus is orthologous to human DQB, which varies from typical class II genes in that both the a and b chains are polymorphic. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes.

REFERENCES

1. Ozato, K. and Sachs, D.H. 1981. Monoclonal antibodies to mouse MHC antigens. III. Hybridoma antibodies reacting to antigens of the H-2b haplotype reveal genetic control of isotype expression. J. Immunol 126: 317-321.
2. Larhammar, D., Hammerling, U., Denaro, M., Lund, T., Flavell, R.A., Rask, L. and Peterson, P.A. 1983. Structure of the murine immune response I-A beta locus: sequence of the I-A β gene and an adjacent β chain second domain exon. Cell 34: 179-188.
3. Cresswell, P. 1994. Assembly, transport, and function of MHC class II molecules. Annu. Rev. Immunol. 12: 259-293.
4. Muhlethaler-Mottet, A., Otten, L.A., Steimle, V. and Mach, B. 1997. Expression of MHC class II molecules in different cellular and functional compartments is controlled by differential usage of multiple promoters of the transactivator CIITA. EMBO J. 16: 2851-2860.
5. Macleod, D., Ali, R.R. and Bird, A. 1998. An alternative promoter in the mouse major histocompatibility complex class II I-Ab gene: implications for the origin of CpG islands. Mol. Cell. Biol. 18: 4433-4443.
6. Lloberas, J., Soler, C. and Celada, A. 1999. Mechanism of I-Ab gene expression. Microbes Infect. 1: 935-941.
7. Honjo, K., Xu, X.Y. and Bucy, R.P. 2000. Heterogeneity of T cell clones specific for a single indirect alloantigenic epitope (I-Ab/H-2Kd54-68) that mediate transplant rejection. Transplantation 70: 1516-1524.
8. Villadangos, J.A. 2001. Presentation of antigens by MHC class II molecules: getting the most out of them. Mol. Immunol. 38: 329-346.

CHROMOSOMAL LOCATION

Genetic locus: H2-Ab1 (mouse) mapping to 17 B1.

SOURCE

H2-I/Abβ (25-9-3) is a mouse monoclonal antibody raised against C3H.SW splenocytes of mouse origin.

PRODUCT

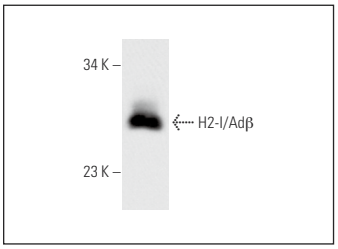
Each vial contains 100 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

H2-I/Abβ (25-9-3) is recommended for detection of MHC class II H2-I/Abβ of mouse 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)] and flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of H2-I/Abβ: 30 kDa.

DATA



H2-I/Abβ (25-9-3): sc-52537. Western blot analysis of H2-I/Abβ expression in mouse PBL 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.