



## RT1-B (F17-23-2): sc-59358

### BACKGROUND

RT1 is the the major histocompatibility complex (MHC) in the rat which contains genes that code for two class II histocompatibility antigens. RT1-B is an antigen of the RT1 complex. It is a protein dimer consisting of an  $\alpha$  and  $\beta$  glycoprotein chain and is homologous to I-A and I-E genes, respectively, in the H-2 complex of the mouse. MHC class II antigens are useful in studying T helper cell interaction with class II positive antigen presenting cells (dendritic cells, B cells, macrophages) and offer new possibilities for studying the development of T helper cells since these antibodies also stain stromal cells in the thymus.

### REFERENCES

1. Holowachuk, E.W., Greer, M.K. and Martin, D.R. 1988. Elevated mRNA levels of major histocompatibility complex class II genes in lymphocytes of autoimmune BB rats. *Diabetes* 37: 1637-1640.
2. Mizuno, K., Inomata, T., Tsuchimoto, S., Matsuno, Y., Niiyama, T., Fujii, H., Natori, T. and Aizawa, M. 1987. Ir gene for bovine Insulin in the rat maps to RT1-B $\beta$ . *J. Immunogenet.* 14: 159-162.
3. Fujii, H., Kakinuma, M., Yoshiki, T. and Natori, T. 1991. Polymorphism of the class II gene of rat major histocompatibility complex, RT1: partial sequence comparison of the first domain of the RT1-B $\beta$  1 alleles. *Immunogenetics* 33: 399-403.
4. Syha-Jedelhauser, J., Wendling, U. and Reske, K. 1991. Complete coding nucleotide sequence of cDNA for the class II RT1-B $\beta$  I chain of the Lewis rat. *Biochim. Biophys. Acta* 1089: 414-416.
5. Easterfield, A.J., Bradley, J.A. and Bolton, E.M. 2003. Complementary DNA sequences encoding the rat MHC class II RT1-Bu and RT1-Du  $\alpha$  and  $\beta$  chains. *Immunogenetics* 55: 344-350.
6. Ettinger, R.A., Moustakas, A.K. and Lobaton, S.D. 2004. Open reading frame sequencing and structure-based alignment of polypeptides encoded by RT1-B $\beta$ , RT1-B $\alpha$ , RT1-D $\beta$  and RT1-D $\alpha$  alleles. *Immunogenetics* 56: 585-596.
7. Neumann, J. 2005. Novel antibody tags from the rat lysosomal protein RT1.DM for immunodetection of recombinant proteins. *J. Immunol. Methods* 301: 66-76.
8. Roos, C. and Walter, L. 2005. Considerable haplotypic diversity in the RT1-CE class I gene region of the rat major histocompatibility complex. *Immunogenetics* 56: 773-777.

### SOURCE

RT1-B (F17-23-2) is a mouse monoclonal antibody raised against partially purified RT1-B of rat origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### RESEARCH USE

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

### APPLICATIONS

RT1-B (F17-23-2) is recommended for detection of RT1-B haplotypes a, l and n expressed on strains including DA, LEW, and BN of mouse and rat origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per  $1 \times 10^6$  cells).

Molecular Weight of RT1-B: 29/30 kDa.

### 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](http://www.scbt.com) for detailed protocols and support products.