

TIM-1 (RMT1-4): sc-53769

BACKGROUND

CD4⁺ T helper lymphocytes can be divided into types 1 (Th1) and 2 (Th2) on the basis of their cytokine secretion patterns. Th1 cells and their associated cytokines are involved in cell-mediated immunity to intracellular pathogens and delayed-type hypersensitivity reactions. Th2 cells are involved in the control of extracellular helminthic infections and the promotion of atopic and allergic diseases. T cell Ig- and Mucin-domain-containing molecules (TIMs) are a family of molecules expressed on T cells. TIM-1 is a single-pass type I membrane protein that is associated with the development of Th2 biased immune responses and selectively expressed on Th2 cells. TIM-1, also designated hepatitis A virus cellular receptor 1 (HAVcr-1) or T cell membrane protein 1, acts as a cell-surface receptor for hepatitis A virus and may also play a role in asthma and allergic disease regulation. TIM-1 is a widely expressed protein with highest levels detected in testis and kidney.

REFERENCES

1. Feigelstock, D., et al. 1998. The human homolog of HAVcr-1 codes for a hepatitis A virus cellular receptor. *J. Virol.* 72: 6621-6628.
2. McIntire, J.J., et al. 2003. Immunology: hepatitis A virus link to atopic disease. *Nature* 425: 576.
3. de Souza, A.J., et al. 2005. T cell Ig and Mucin 1 (TIM-1) is expressed on *in vivo*-activated T cells and provides a costimulatory signal for T cell activation. *Proc. Natl. Acad. Sci. USA* 102: 17113-17118.
4. Mariat, C., et al. 2005. Regulation of T cell dependent immune responses by TIM family members. *Philos. Trans. R. Soc. Lond., B, Biol. Sci.* 360: 1681-1685.
5. Gielen, A.W., et al. 2005. Expression of T cell immunoglobulin- and Mucin-domain-containing molecules-1 and -3 (TIM-1 and -3) in the rat nervous and immune systems. *J. Neuroimmunol.* 164: 93-104.
6. Nakajima, T., et al. 2005. Evidence for natural selection in the HAVCR1 gene: high degree of amino-acid variability in the Mucin domain of human HAVCR1 protein. *Genes Immun.* 6: 398-406.
7. Umetsu, S.E., et al. 2005. TIM-1 induces T cell activation and inhibits the development of peripheral tolerance. *Nat. Immunol.* 6: 447-454.
8. Mesri, M., et al. 2006. Inhibition of *in vitro* and *in vivo* T cell responses by recombinant human TIM-1 extracellular domain proteins. *Int. Immunol.* 18: 473-484.

CHROMOSOMAL LOCATION

Genetic locus: Havcr1 (mouse) mapping to 11 B1.1.

SOURCE

TIM-1 (RMT1-4) is a rat monoclonal antibody raised against TIM-1 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

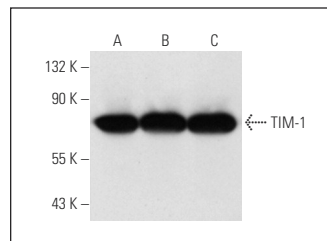
TIM-1 (RMT1-4) is recommended for detection of TIM-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for TIM-1 siRNA (m): sc-61692, TIM-1 shRNA Plasmid (m): sc-61692-SH and TIM-1 shRNA (m) Lentiviral Particles: sc-61692-V.

Molecular Weight of TIM-1: 68 kDa.

Positive Controls: mouse kidney extract: sc-2255, mouse testis extract: sc-2405 or mouse lymph node extract: sc-364243.

DATA



TIM-1 (RMT1-4): sc-53769. Western blot analysis of TIM-1 expression in mouse lymph node (A), mouse kidney (B) and mouse testes (C) tissue extracts.

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.