

TIM-2 (T-15): sc-79138

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-2 inhibits T cell activation *in vitro* and T cell-mediated disease *in vivo*. TIM-2 is expressed preferentially in differentiated Th2 cells, and is critical for the negative regulation of Th2 responses during autoimmune inflammation. Further understanding of the mechanisms by which TIM-2 regulates Th2-effector activity may provide insight into the therapeutic modulation of immune-mediated diseases.

REFERENCES

1. Kumanogoh, A., et al. 2002. Class IV semaphorin SEMA4A enhances T cell activation and interacts with TIM-2. *Nature* 419: 629-633.
2. Kumanogoh, A. and Kikutani, H. 2003. Immune semaphorins: a new area of semaphorin research. *J. Cell Sci.* 116: 3463-3470.
3. Chakravarti, S., et al. 2005. TIM-2 regulates T helper type 2 responses and autoimmunity. *J. Exp. Med.* 202: 437-444.
4. Chen, T.T., et al. 2005. TIM-2 is expressed on B cells and in liver and kidney and is a receptor for H-ferritin endocytosis. *J. Exp. Med.* 202: 955-965.
5. 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.
6. Meyers, J.H., et al. 2005. The TIM gene family regulates autoimmune and allergic diseases. *Trends Mol. Med.* 11: 362-369.
7. Rennert, P.D., et al. 2006. T cell, Ig domain, Mucin domain-2 gene-deficient mice reveal a novel mechanism for the regulation of Th2 immune responses and airway inflammation. *J. Immunol.* 177: 4311-4321.
8. Knickelbein, J.E., et al. 2006. Cutting edge: inhibition of T cell activation by TIM-2. *J. Immunol.* 177: 4966-4970.
8. Moretti, S., et al. 2006. Neuronal semaphorins regulate a primary immune response. *Curr. Neurovasc. Res.* 3: 295-305.

CHROMOSOMAL LOCATION

Genetic locus: *Timd2* (rat) mapping to 10q21.

SOURCE

TIM-2 (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of TIM-2 of rat 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-79138 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

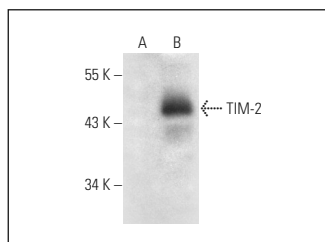
TIM-2 (T-15) is recommended for detection of TIM-2 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of TIM-2: 34 kDa.

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



TIM-2 (T-15): sc-79138. Western blot analysis of TIM-2 expression in non-transfected: sc-117752 (A) and mouse TIM-2 transfected: sc-126101 (B) 293T 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.

RESEARCH USE

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

PROTOCOLS

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