TIM-2 (I-15): sc-79133



The Power to Question

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

- Kumanogoh, A., Marukawa, S., Suzuki, K., Takegahara, N., Watanabe, C., Ch'ng, E., Ishida, I., Fujimura, H., Sakoda, S., Yoshida, K. and Kikutani, H. 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., Sabatos, C.A., Xiao, S., Illes, Z., Cha, E.K., Sobel, R.A., Zheng, X.X., Strom, T.B. and Kuchroo, V.K. 2005. TIM-2 regulates T helper type 2 responses and autoimmunity. J. Exp. Med. 202: 437-444.
- 4. Chen, T.T., Li, L., Chung, D.H., Allen, C.D., Torti, S.V., Torti, F.M., Cyster, J.G., Chen, C.Y., Brodsky, F.M., Niemi, E.C., Nakamura, M.C., Seaman, W.E. and Daws, M.R. 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.
- Mariat, C., Sánchez-Fueyo, A., Alexopoulos, S.P., Kenny, J., Strom, T.B. and Zheng, X.X. 2005. Regulation of T cell dependent immune responses by TIM family members. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 360: 1681-1685.
- Meyers, J.H., Sabatos, C.A., Chakravarti, S. and Kuchroo, V.K. 2005. The TIM gene family regulates autoimmune and allergic diseases. Trends Mol. Med. 11: 362-369.
- Rennert, P.D., Ichimura, T., Sizing, I.D., Bailly, V., Li, Z., Rennard, R., McCoon, P., Pablo, L., Miklasz, S., Tarilonte, L. and Bonventre, J.V. 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., de Souza, A.J., Tosti, R., Narayan, P. and Kane, L.P. 2006. Cutting edge: inhibition of T cell activation by TIM-2. J. Immunol. 177: 4966-4970.
- 8. Moretti, S., Procopio, A., Boemi, M. and Catalano, A. 2006. Neuronal semaphorins regulate a primary immune response. Curr. Neurovasc. Res. 3: 295-305.

RESEARCH USE

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

SOURCE

TIM-2 (I-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal 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-79133 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TIM-2 (I-15) is recommended for detection of TIM-2 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) 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.

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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com