

# TIM-1 (M-32): sc-135253

## BACKGROUND

CD4<sup>+</sup> 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 (M-32) is a rabbit polyclonal antibody raised against amino acids 35-66 mapping within an internal region of TIM-1 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

TIM-1 (M-32) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **TIM-1 (RMT1-4): sc-53769**, our highly recommended monoclonal alternative to TIM-1 (M-32).