

TIM-4 (G-19): sc-79142

BACKGROUND

TIM-4 (T-cell immunoglobulin and mucin domain containing 4), also known as SMUCKLER or TIMD4, is a 378 amino acid single-pass type I membrane protein that contains one Ig-like (immunoglobulin-like) V-type domain and belongs to the immunoglobulin superfamily. Expressed predominately in lymphoid tissues, such as spleen, TIM-4 interacts with TIM-1 and is thought to function as a phosphatidylserine receptor, possibly playing a role in apoptotic cell uptake and T-cell proliferation, indicating potential involvement in immune system regulation. The gene encoding TIM-4 maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610096. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Shakhov, A.N., et al. 2004. SMUCKLER/TIM-4 is a distinct member of TIM family expressed by stromal cells of secondary lymphoid tissues and associated with lymphotoxin signaling. *Eur. J. Immunol.* 34: 494-503.
3. Meyers, J.H., et al. 2005. TIM-4 is the ligand for TIM-1, and the TIM-1-TIM-4 interaction regulates T cell proliferation. *Nat. Immunol.* 6: 455-464.
4. Page, N.S., et al. 2006. Genetic association studies between the T cell immunoglobulin mucin (TIM) gene locus and childhood atopic dermatitis. *Int. Arch. Allergy Immunol.* 141: 331-336.
5. Kobayashi, N., et al. 2007. TIM-1 and TIM-4 glycoproteins bind phosphatidylserine and mediate uptake of apoptotic cells. *Immunity.* 27: 927-940.
6. Santiago, C., et al. 2007. Structures of T cell immunoglobulin mucin protein 4 show a metal-ion-dependent ligand binding site where phosphatidylserine binds. *Immunity.* 27: 941-951.

CHROMOSOMAL LOCATION

Genetic locus: TIMD4 (human) mapping to 5q33.3.

SOURCE

TIM-4 (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of TIM-4 of human 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-79142 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

TIM-4 (G-19) is recommended for detection of TIM-4 of human 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).

Suitable for use as control antibody for TIM-4 siRNA (h): sc-76664, TIM-4 shRNA Plasmid (h): sc-76664-SH and TIM-4 shRNA (h) Lentiviral Particles: sc-76664-V.

Molecular Weight of TIM-4: 42 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.

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.