SANTA CRUZ BIOTECHNOLOGY, INC.

TM4SF4 (4E6): sc-293348

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transmembrane 4 superfamily (also known as the tetraspanin family) is a group of cell surface proteins that regulate cell development, activation, growth and motility. Each member contains four hydrophobic domains and participates in the mediation of signal transduction. TM4SF4 (transmembrane 4 L6 family member 4), also known as intestine and liver tetraspan membrane protein (ILTMP), is a 202 amino acid multi-pass membrane protein that belongs to the L6 tetraspanin family. Expressed in jejunum and liver, TM4SF4 regulates density-dependent cell proliferation as well as the adhesive and proliferative state of intestinal epithelial cells. TM4SF4 contains four membrane spanning domains and two sites that undergo post translational N-linked glycosylation, which is necessary for TM4SF4 to produce its growth inhibitory effect. The gene encoding TM4SF4 maps to human chromosome 3q25.1.

REFERENCES

1. Wice, B.M. and Gordon, J.I. 1995. A tetraspan membrane glycoprotein produced in the human intestinal epithelium and liver that can regulate cell density-dependent proliferation. J. Biol. Chem. 270: 21907-21918.
2. Ferrer, M., et al. 1998. Pattern of expression of tetraspanin antigen genes in Burkitt lymphoma cell lines. Clin. Exp. Immunol. 113: 346-352.
3. Wright, M.D., et al. 2000. The L6 membrane proteins—a new four-transmembrane superfamily. Protein Sci. 9: 1594-1600.
4. Liu, Z., et al. 2001. Molecular cloning of a cDNA for rat TM4SF4, a homolog of human il-TMP (TM4SF4), and enhanced expression of the corresponding gene in regenerating rat liver. Biochim. Biophys. Acta 1518: 183-189.
5. Berditchevski, F. 2001. Complexes of tetraspanins with integrins: more than meets the eye. J. Cell Sci. 114: 4143-4151.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606567. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Qiu, J., et al. 2007. Overexpression of the gene for transmembrane 4 superfamily member 4 accelerates liver damage in rats treated with CCl4. J. Hepatol. 46: 266-275.
8. Qiao, J., et al. 2008. Microarray evaluation of endometrial receptivity in Chinese women with polycystic ovary syndrome. Reprod. Biomed. Online 17: 425-435.

CHROMOSOMAL LOCATION

Genetic locus: TM4SF4 (human) mapping to 3q25.1.

SOURCE

TM4SF4 (4E6) is a mouse monoclonal antibody raised against amino acids 1-202 representing full length TM4SF4 of human origin.

PRODUCT

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

APPLICATIONS

TM4SF4 (4E6) is recommended for detection of TM4SF4 of human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TM4SF4 siRNA (h): sc-78315, TM4SF4 shRNA Plasmid (h): sc-78315-SH and TM4SF4 shRNA (h) Lentiviral Particles: sc-78315-V.

Molecular Weight (predicted) of TM4SF4: 21 kDa.

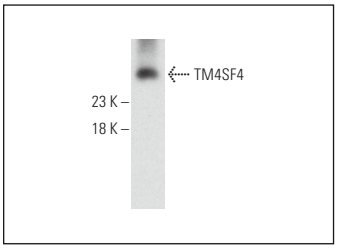
Molecular Weight (observed) of TM4SF4: 30/42 kDa.

Positive Controls: A549 cell lysate: sc-2413.

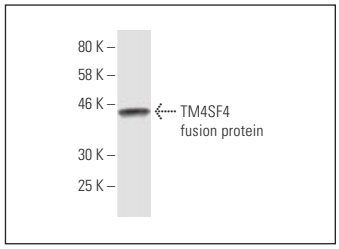
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



TM4SF4 (4E6): sc-293348. Western blot analysis of TM4SF4 expression in A549 whole cell lysate.



TM4SF4 (4E6): sc-293348. Western blot analysis of human recombinant TM4SF4 fusion protein.

SELECT PRODUCT CITATIONS

1. Mun, S., et al. 2022. Transcriptome profile of membrane and extracellular matrix components in ligament-fibroblastic progenitors and cementoblasts differentiated from human periodontal ligament cells. Genes 13: 659.

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.