SANTA CRUZ BIOTECHNOLOGY, INC.

TM (h): 293T Lysate: sc-115666

BACKGROUND

Thrombomodulin™, also called CD141, is a type I membrane receptor that is specific to endothelial cells. TM has a cysteine-rich extracellular domain with six EGF-like regions. TM forms a complex with Thrombin, which activates Protein C to generate activated protein C (APC), an anticoagulant enzyme. APC together with Protein S inhibits coagulation by inactivating Factors Va and VIIIa. Deletion of the TM gene results in embryonic lethality in mice.

REFERENCES

1. Jackman, R.W., Beeler, D.L., Fritze, L., Soff, G. and Rosenberg, R.D. 1987. Human TM gene is intron depleted: nucleic acid sequences of the cDNA and gene predict protein structure and suggest sites of regulatory control. Proc. Natl. Acad. Sci. USA 84: 6425-6429.
2. Suzuki, K., Kusumoto, H., Deyashiki, Y., Nishioka, J., Maruyama, I., Zushi, M., Kawahara, S., Honda, G., Yamamoto, S. and Horiguchi, S. 1987. Structure and expression of human TM, a Thrombin receptor on endothelium acting as a cofactor for Protein C activation. EMBO J. 6: 1891-1897.
3. Shirai, T., Shiojiri, S., Ito, H., Yamamoto, S., Kusumoto, H., Deyashiki, Y., Maruyama, I. and Suzuki, K. 1988. Gene structure of human TM, a cofactor for Thrombin-catalyzed activation of Protein C. J. Biochem. 103: 281-285.
4. Healy, A.M., Rayburn, H.B., Rosenberg, R.D. and Weiler, H. 1995. Absence of the blood-clotting regulator thrombomodulin causes embryonic lethality in mice before development of a functional cardiovascular system. Proc. Natl. Acad. Sci. USA 92: 850-854.
5. Rosenberg, R.D. 1995. The absence of the blood clotting regulator thrombomodulin causes embryonic lethality in mice before development of a functional cardiovascular system. Thromb. Haemost. 74: 52-57.
6. Gerlitz, B. and Grinnell, B.W. 1996. Mutation of protease domain residues Ly 37-39 in human Protein C inhibits activation by the TM-Thrombin complex without affecting activation by free Thrombin. J. Biol. Chem. 271: 22285-22288.
7. Nishioka, J., Ido, M., Hayashi, T. and Suzuki, K. 1996. The Gla26 residue of Protein C is required for the binding of Protein C to TM and endothelial cell Protein C receptor, but not to Protein S and Factor Va. Thromb. Haemost. 75: 275-282.
8. Dahlback, B. 1997. Factor V and Protein S as cofactors to activated Protein C. Haematologica 82: 91-95.

CHROMOSOMAL LOCATION

Genetic locus: THBD (human) mapping to 20p11.21.

PRODUCT

TM (h): 293T Lysate represents a lysate of human TM transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

TM (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TM antibodies. Recommended use: 10-20 µl per lane.

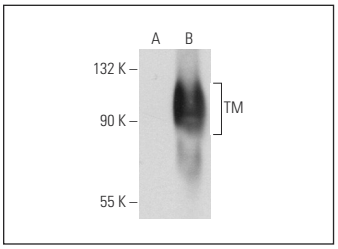
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TM (D-3): sc-13164 is recommended as a positive control antibody for Western Blot analysis of enhanced human TM expression in TM transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

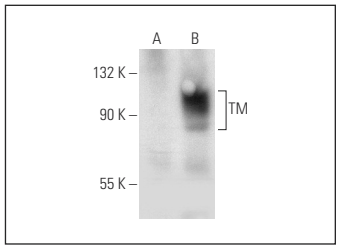
RECOMMENDED SUPPORT REAGENTS

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.

DATA



TM (D-3): sc-13164. Western blot analysis of TM expression in non-transfected: sc-117752 (**A**) and human TM transfected: sc-115666 (**B**) 293T whole cell lysates.



TM (H-11): sc-271804. Western blot analysis of TM expression in non-transfected: sc-117752 (**A**) and human TM transfected: sc-115666 (**B**) 293T whole cell lysates.

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.