

Trophinin (A-18): sc-67887

BACKGROUND

Trophinin, also known as TRO or MAGED3, is an apical cell adhesion molecule that interacts with and forms a complex with Bystin and Tastin, facilitating cell adhesion and embryo implantation. Trophinin is a membrane protein expressed in chorionic villi trophoblasts and in maternal endometrial epithelial cells in an implantation-dependent manner. It functions by mediating cell adhesion between trophoblastic and endometrial epithelial cells. The adhesion is achieved via homophilic Trophinin-Trophinin binding. Trophinin expression is induced by Choriogonadotropin β as well as IL-1 β , and higher expression levels of Trophinin promote cell adhesion. Since increased expression leads to greater rates of cell adhesion, induction of Trophinin expression may be a useful method for improving implantation rates. Trophinin is also found in macrophages and contains one MAGE (melanoma-associated antigen) domain.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300132. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Wang, H.Y., Xing, F.Q. and Chen, S.L. 2002. Expression of trophinin in the cycling endometrium and its association with infertility. *Di Yi Jun Yi Da Xue Xue Bao.* 22: 539-541.
3. Kirkin, A.F., Dzhandzhugazyan, K.N. and Zeuthen, J. 2002. Cancer/testis antigens: structural and immunobiological properties. *Cancer Invest.* 20: 222-236.
4. Nakano, S., Kishi, H., Ogawa, H., Yasue, H., Okano, A. and Okuda, K. 2003. Trophinin is expressed in the porcine endometrium during the estrous cycle. *J. Reprod. Dev.* 49: 127-134.
5. Bertrand, M., Huijbers, I., Chomez, P. and De Backer, O. 2004. Comparative expression analysis of the MAGED genes during embryogenesis and brain development. *Dev. Dyn.* 230: 325-334.
6. Aoyama, J., Nakayama, Y., Sugiyama, D., Saburi, S., Nadano, D., Fukuda, M.N. and Yamaguchi, N. 2005. Apical cell adhesion molecule, trophinin, localizes to the nuclear envelope. *FEBS Lett.* 579: 6326-6332.
7. Ma, L., Yin, M., Wu, X., Wu, C., Yang, S., Sheng, J., Ni, H., Fukuda, M.N. and Zhou, J. 2006. Expression of trophinin and bystin identifies distinct cell types in the germinal zones of adult rat brain. *Eur. J. Neurosci.* 23: 2265-2276.
8. Fukuda, M.N. and Sugihara, K. 2007. Signal transduction in human embryo implantation. *Cell Cycle* 6: 1153-1156.
9. Sugihara, K., Kabir-Salmani, M., Byrne, J., Wolf, D.P., Lessey, B., Iwashita, M., Aoki, D., Nakayama, J. and Fukuda, M.N. 2008. Induction of trophinin in human endometrial surface epithelia by CG β and IL-1 β . *FEBS Lett.* 582: 197-202.

CHROMOSOMAL LOCATION

Genetic locus: TRO (human) mapping to Xp11.21.

RESEARCH USE

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

SOURCE

Trophinin (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Trophinin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-67887 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

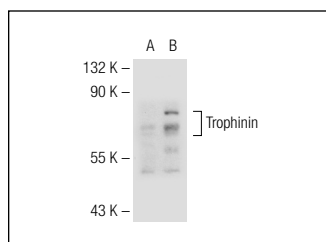
Trophinin (A-18) is recommended for detection of Trophinin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 Trophinin siRNA (h): sc-63163, Trophinin shRNA Plasmid (h): sc-63163-SH and Trophinin shRNA (h) Lentiviral Particles: sc-63163-V.

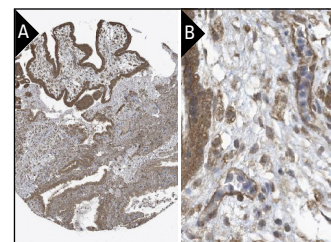
Molecular Weight of human Trophinin: 69 kDa.

Positive Controls: Trophinin (h): 293T Lysate: sc-113881 or human HT-H cell lysate.

DATA



Trophinin (A-18): sc-67887. Western blot analysis of Trophinin expression in non-transfected: sc-117752 (A) and human Trophinin transfected: sc-113881 (B) 293T whole cell lysates.



Trophinin (A-18): sc-67887. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidua and trophoblastic cells in low (A) and high (B) resolution. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

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.