SANTA CRUZ BIOTECHNOLOGY, INC.

Trophinin (2E2): sc-81715

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-1β, 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

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2. Kirkin, A.F., Dzhandzhugazyan, K.N. and Zeuthen, J. 2002. Cancer/testis antigens: structural and immunobiological properties. Cancer Invest. 20: 222-236.
3. 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/
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.

CHROMOSOMAL LOCATION

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

SOURCE

Trophinin (2E2) is a mouse monoclonal antibody raised against amino acids 399-415 of Trophinin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Trophinin (2E2) 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 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

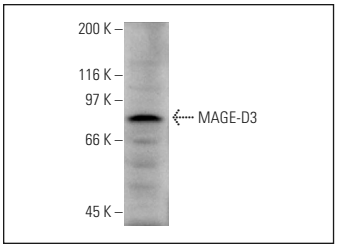
Molecular Weight of mouse Trophinin: 110 kDa.

Positive Controls: human HT-H cell lysate.

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MAGE-D3 (2E2): sc-81715. Western blot analysis of MAGE-D3 expression in human HT-H cell lysate.

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.