

Trophinin siRNA (h): sc-63163

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. Wang, H.Y., et al. 2002. Expression of Trophinin in the cycling endometrium and its association with infertility. *Di Yi Jun Yi Da Xue Xue Bao* 22: 539-541.
2. Kirkin, A.F., et al. 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., et al. 2003. Trophinin is expressed in the porcine endometrium during the estrous cycle. *J. Reprod. Dev.* 49: 127-134.
5. Bertrand, M., et al. 2004. Comparative expression analysis of the MAGED genes during embryogenesis and brain development. *Dev. Dyn.* 230: 325-334.

CHROMOSOMAL LOCATION

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

PRODUCT

Trophinin siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Trophinin shRNA Plasmid (h): sc-63163-SH and Trophinin shRNA (h) Lentiviral Particles: sc-63163-V as alternate gene silencing products.

For independent verification of Trophinin (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63163A, sc-63163B and sc-63163C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Trophinin siRNA (h) is recommended for the inhibition of Trophinin expression in human cells.

SUPPORT REAGENTS

For optimal shRNA Plasmid transfection efficiency, Santa Cruz Biotechnology's shRNA Plasmid Transfection Reagent: sc-108061 (0.2 ml) and shRNA Plasmid Transfection Medium: sc-108062 (20 ml) are recommended. Control shRNAs are available as 20 μ g lyophilized plasmid DNA. Each encodes a scrambled shRNA sequence that will not lead to the specific degradation of any known cellular mRNA. Control shRNA Plasmids include: sc-108060, sc-108065 and sc-108066.

GENE EXPRESSION MONITORING

Trophinin (clone 3-11): sc-80002 is recommended as a control antibody for monitoring of Trophinin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Trophinin gene expression knockdown using RT-PCR Primer: Trophinin (h)-PR: sc-63163-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.