SANTA CRUZ BIOTECHNOLOGY, INC.

Tastin siRNA (h): sc-63107

BACKGROUND

Tastin (Trophinin associated protein), also known as TROAP, is essential for centrosome integrity and proper bipolar organization of spindle assembly during mitosis. It is expressed at high levels in bone marrow, testis, and thymus, localizing to the cytoplasm and associating with microtubules, the mitotic spindle and centrosomes. Tastin expression peaks in the cell during the G_2/M phase and declines after the cell divides. Cells overexpresssing Tastin form monopolar spindles, while cells depleted of Tastin form multipolar spindles. Tastin binds directly to the Dynein Light Chain (Dynein LC or Tctex-1) and γ Tubulin, further supporting its role in spindle assembly and cell proliferation. In addition, Tastin can interact with and form a complex with Bystin and Trophinin, facilitating cell adhesion and, in particular, embryo implantation.

REFERENCES

1. Fukuda, M.N., et al. 1995. Trophinin and Tastin, a novel cell adhesion molecule complex with potential involvement in embryo implantation. Genes Dev. 9: 1199-1210.
2. Fukuda, M.N. 1996. Molecular basis of embryo implantation. Keio J. Med. 45: 37-43.
3. Fukuda, M.N. and Nozawa, S. 1999. Trophinin, Tastin, and Bystin: a complex mediating unique attachment between trophoblastic and endometrial epithelial cells at their respective apical cell membranes. Semin. Reprod. Endocrinol. 17: 229-234.
4. Suzuki, N., et al. 1999. Expression of Trophinin, Tastin, and Bystin by trophoblast and endometrial cells in human placenta. Biol. Reprod. 60: 621-627.
5. Nadano, D., et al. 2002. Human Tastin, a proline-rich cytoplasmic protein, associates with the microtubular cytoskeleton. Biochem. J. 364: 669-677.
6. Nakayama, J., et al. 2003. Implantation-dependent expression of Trophinin by maternal fallopian tube epithelia during tubal pregnancies: possible role of human chorionic gonadotrophin on ectopic pregnancy. Am. J. Pathol. 163: 2211-2219.
7. Sheng, J., et al. 2004. Bystin as a novel marker for reactive astrocytes in the adult rat brain following injury. Eur. J. Neurosci. 20: 873-884.

CHROMOSOMAL LOCATION

Genetic locus: TROAP (human) mapping to 12q13.12.

PRODUCT

Tastin 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tastin shRNA Plasmid (h): sc-63107-SH and Tastin shRNA (h) Lentiviral Particles: sc-63107-V as alternate gene silencing products.

For independent verification of Tastin (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-63107A, sc-63107B and sc-63107C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

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

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Tastin (D-2): sc-271715 is recommended as a control antibody for monitoring of Tastin 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-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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Tastin gene expression knockdown using RT-PCR Primer: Tastin (h)-PR: sc-63107-PR (20 µl). 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.