

TWA1 siRNA (m): sc-154811

BACKGROUND

TWA1 (two hybrid-associated protein 1 with Ran BP-M), also known as Protein C20orf11, is a 228 amino acid nuclear protein that is highly conserved throughout evolution. TWA1 interacts with Ran BP-M, a protein that is implicated in a diverse array of cellular processes including DNA replication, entry into and exit from mitosis, and the transport of RNA and proteins through the nuclear pore complex. Together, Ran BP-M and TWA1 form a complex with cytoplasmic Muskulin, a mediator of cell spreading. It is thought that this complex plays a role in the Ran GTPase cycle and therefore a potential role in the cell cycle. TWA1 contains a LisH-CTLH motif which is usually found in proteins that are involved in nucleokinesis, chromosome segregation, cell migration and microtubule dynamics. The gene encoding TWA1 maps to human chromosome 20, which comprises approximately 2% of the human genome and contains nearly 63 million bases that encode over 600 genes.

REFERENCES

1. Nishimoto, T. 1999. A new role of ran GTPase. *Biochem. Biophys. Res. Commun.* 262: 571-574.
2. Kalab, P., Pu, R.T. and Dasso, M. 1999. The ran GTPase regulates mitotic spindle assembly. *Curr. Biol.* 9: 481-484.
3. Moore, J.D. 2001. The Ran-GTPase and cell-cycle control. *Bioessays* 23: 77-85.
4. Umeda, M., Nishitani, H. and Nishimoto, T. 2003. A novel nuclear protein, Twa1, and Muskulin comprise a complex with RanBPM. *Gene* 303: 47-54.
5. Kobayashi, N., Yang, J., Ueda, A., Suzuki, T., Tomaru, K., Takeno, M., Okuda, K. and Ishigatsubo, Y. 2007. RanBPM, Muskulin, p48EMLP, p44CTLH, and the armadillo-repeat proteins ARMC8 α and ARMC8 β are components of the CTLH complex. *Gene* 396: 236-247.
6. Murrin, L.C. and Talbot, J.N. 2007. RanBPM, a scaffolding protein in the immune and nervous systems. *J. Neuroimmune Pharmacol.* 2: 290-295.
7. Rensen, W.M., Mangiacasale, R., Ciciarello, M. and Lavia, P. 2008. The GTPase Ran: regulation of cell life and potential roles in cell transformation. *Front. Biosci.* 13: 4097-4121.
8. Valiyaveetil, M., Bentley, A.A., Gursahaney, P., Hussien, R., Chakravarti, R., Kureishy, N., Prag, S. and Adams, J.C. 2008. Novel role of the muskulin-RanBP9 complex as a nucleocytoplasmic mediator of cell morphology regulation. *J. Cell Biol.* 182: 727-739.

CHROMOSOMAL LOCATION

Genetic locus: Gid8 (mouse) mapping to 2 H4.

PRODUCT

TWA1 siRNA (m) is a target-specific 19-25 nt siRNA 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 TWA1 shRNA Plasmid (m): sc-154811-SH and TWA1 shRNA (m) Lentiviral Particles: sc-154811-V as alternate gene silencing products.

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

TWA1 siRNA (m) is recommended for the inhibition of TWA1 expression in mouse 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 μ M in 66 μ l. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TWA1 gene expression knockdown using RT-PCR Primer: TWA1 (m)-PR: sc-154811-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.