

MCTS2 siRNA (m): sc-149332

BACKGROUND

Malignant T cell amplified sequence family members include MCTS1 and MCTS2. MCTS1 (malignant T cell amplified sequence 1), also known as MCT1, is a 181 amino acid protein that is ubiquitously expressed and localizes to the cytoplasm of cells. MCTS1 may play a role in cell cycle regulation by decreasing cell doubling time and by shortening the duration of G₁ transit time and G₁/S transition. MCTS2 (malignant T cell amplified sequence 2), also known as multiple copies T-cell malignancies 2, is also a 181 amino acid cytoplasmic protein that contains one PUA domain. MCTS2 is paternally expressed and undergoes promoter methylation during oogenesis. MCTS2 has been identified as a novel candidate imprinted retrogene on mouse chromosome 2.

REFERENCES

1. Prosniak, M., Dierov, J., Okami, K., Tilton, B., Jameson, B., Sawaya, B.E. and Gartenhaus, R.B. 1998. A novel candidate oncogene, MCT-1, is involved in cell cycle progression. *Cancer Res.* 58: 4233-4237.
2. Dierov, J., Prosniak, M., Gallia, G. and Gartenhaus, R.B. 1999. Increased G₁ cyclin/cdk activity in cells overexpressing the candidate oncogene, MCT-1. *J. Cell. Biochem.* 74: 544-550.
3. Herbert, G.B., Shi, B. and Gartenhaus, R.B. 2001. Expression and stabilization of the MCT-1 protein by DNA damaging agents. *Oncogene* 20: 6777-6783.
4. Shi, B., Levenson, V. and Gartenhaus, R.B. 2003. Identification and characterization of a novel enhancer for the human MCT-1 oncogene promoter. *J. Cell. Biochem.* 90: 68-79.
5. Levenson, A.S., Thurn, K.E., Simons, L.A., Veliceasa, D., Jarrett, J., Osipo, C., Jordan, V.C., Volpert, O.V., Satcher, R.L. and Gartenhaus, R.B. 2005. MCT-1 oncogene contributes to increased *in vivo* tumorigenicity of MCF7 cells by promotion of angiogenesis and inhibition of apoptosis. *Cancer Res.* 65: 10651-10656.
6. Hsu, H.L., Shi, B. and Gartenhaus, R.B. 2005. The MCT-1 oncogene product impairs cell cycle checkpoint control and transforms human mammary epithelial cells. *Oncogene* 24: 4956-4964.

CHROMOSOMAL LOCATION

Genetic locus: Mcts2 (mouse) mapping to 2 H1.

PRODUCT

MCTS2 siRNA (m) is a pool of 2 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 MCTS2 shRNA Plasmid (m): sc-149332-SH and MCTS2 shRNA (m) Lentiviral Particles: sc-149332-V as alternate gene silencing products.

For independent verification of MCTS2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149332A and sc-149332B.

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

MCTS2 siRNA (m) is recommended for the inhibition of MCTS2 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 MCTS2 gene expression knockdown using RT-PCR Primer: MCTS2 (m)-PR: sc-149332-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.